The magazine for AUSTRALIAN radio amateurs

Volume 74 No 12
December 2006

Amateur Radio

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Editorial

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editor-armag@wia.org.au

Technical Editor: Peter Gibson VK3AZL

Publications Committee Members
Brenda Edmonds VK3KT
Ron Fisher VK3OM
Evan Jarman VK3ANI
Tom Potter VK3UBS
Bill Roper VK3BR
Ernie Walls VK3FM

All circulation matters
nationaloffice@wia.org.au

How to submit material

General and Technical articles
Secretary
AR Publications Committee
PO Box 2175,
Caulfield Junction Vic 3161
or armag@wia.org.au

Columns and letters to Editor
Editor
AR Magazine
PO Box 273
Churchill, Vic 3842
or editor-armag@wia.org.au

Hamads
"Hamads" Newsletters Unlimited
PO Box 431
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Fax 03 9756 7031
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Advertising
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Registered Office
10/229 Balaclava Road,
Caulfield North VIC 3161
Australia
Phone: 03 9528 5962
Fax: 03 9523 8191

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Two Yaesu hand-helds. See Equipment Review on page 16

Contributions to Amateur Radio
Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, 'How to write for Amateur Radio' is available from the National Office on receipt of a stamped self-addressed envelope.

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Disclaimer
The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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Registered Office of the WIA

10/229 Balaclava Road, Caulfield North Vic 3161
Tel: (03) 9528 5962 Fax (03) 9523 8191
email: nationaloffice@wia.org.au
http://www.wia.org.au

All mail to

PO Box 2175 Caulfield Junction VIC 3161

***Business hours:* 10am – 4pm weekdays**

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Editorial Comment

Peter Freeman VK3KAI

One year of AR

This issue of *Amateur Radio* represents one year as Editor for me. We still have occasional glitches in our production system and sometimes we fail to meet our goals for having the magazine in members' hands early in each month. However, we continue to attempt to improve our performance and also the quality of your journal.

I must express my thanks to the members of the Publications Committee. They all spend significant amounts of time in reviewing submitted material and in proof reading each issue. They certainly operate as a most supportive team for me. I should also thank the WIA Board for their support throughout the last year and for having the confidence to appoint me to the role of Editor.

Contributions

We all depend upon those who contribute material to this magazine, be it a regular monthly column or a single article describing some activity or the latest project. Many readers will have noted that some names appear regularly beside technical articles. These contributors provide a steady stream of material for publication and we all applaud their efforts and thank them.

Anyone considering writing for the magazine should feel free to contact me with their ideas. Sometimes it takes a long time before an article is published, due to the various review steps applied. Take heart, the material will eventually move to the front of the queue and appear in AR.

A bumper issue

This issue will be a 64-page issue, up by eight pages from the normal size. We have also included extra internal colour. The issue may be out a few days later than normal, but this has been unavoidable. I trust that you enjoy reading this issue. We see two equipment reviews – one of handheld radios from Yaesu and an overview of some older equipment from Kenwood. Fans of Drew Diamond should be happy, as we have three of his articles this month. We have reports of a variety of activities, from a Foundation course through to accounts of this year's Jamboree on the Air (JOTA). Everyone should remember that the next issue will not appear until the start of February and will be a combined January/February issue, as has been the practice for the past few years.

Interference

Starting on page 22, we have an interesting report from Jim Linton VK3PC on the interference produced by the BPL Trial being conducted in Mount Beauty in north eastern Victoria. In this case, the cause is clear and has been confirmed.

There is almost some degree of paranoia being displayed by some amateurs about the potential threats of BPL. Whilst concern is justified, we should not be making official complaints unless we are certain of the source of the interference. In his investigation of the Mt Beauty Trial, Peter Young VK3MV recorded only normal background urban environment levels of noise outside of the BPL service area. This demonstrates that it is unlikely that anyone located outside a BPL service area will suffer significant interference from this source. His measurements, made with correct technique and reasonably well calibrated equipment, did show significant levels of signals within the service area.

If you need assistance to identify an interference source, try contacting your local club or the WIA. Details about the VK3MV measurements, the WIA BPL Working Group and clubs around Australia, see the WIA website at: http://www.wia.org.au/ .

Year's end

The end of the year is almost upon us. I trust you all have a chance to sit back, relax and consider "what next". I am certainly hoping to have some time to play radio and intend to start a significant shack tidy up, followed by moving along on some of the many projects on the "to do" list. Hopefully, we will have some reasonable propagation over the period late December and early January for the Ross Hull Contest and the Summer VHF UHF Field Day.

Make some extra time to enjoy your favourite aspect of this diverse hobby that we share. I wish you all the best for the festive season and hope that you have a safe and prosperous New Year.

Michael Owen VK3KI

Another year passes

I was wondering what I would write about in this end-of-year issue of *Amateur Radio*.

Another year passes.

Another year to look back on what the WIA has done?

I thought of the many different things done by the WIA. Each depends on one or more people. Do we really acknowledge and appreciate what they do?

It seemed to me that this was the time to recognise some who contribute so much.

But there is a great danger in trying to do that. Almost certainly I will miss someone I should have mentioned by name and so cause offence. But that is why I say "some", as I know I cannot say "all".

But first, in this review of a year, may I do what I have not yet really done; pay a particular tribute to Chris Jones VK2ZDD?

I am very sure that I would not have tackled the task of the "new" WIA if it had not been for Chris Jones. As I said when I told you all of his passing at the end of last August, Chris was the person whose vision and commitment made the WIA what it is today.

It was Chris who talked a group of amateurs in late 2003 into believing that a national WIA was a realistic and better option.

It was Chris who believed fervently that the organisation would grow if it delivered service and avoided conflict.

And it was Chris who persuaded many of us to give a commitment to the WIA.

I returned from overseas in October, after the passing of Chris on 25 August, and because of that the realisation of loss was slow to emerge.

For some 2 years, I had spoken to Chris almost every day, usually first thing every morning, and then during the day, as different issues and problems arose.

From early last year his abiding interest was the amateur qualification system, the qualification and accreditation of the WIA Assessors and then the training and qualification of new amateurs under the new system, particularly the Foundation licence. He was eagerly looking forward to being able say that we had qualified 1,000 new amateurs in a year.

I have never met anyone more persistently anxious to turn an organisation that he believed was necessary into one that attracted the support and membership of as many amateurs as possible, and thus would grow and prosper, doing so without pushing himself forward.

His passing was the loss of us all.

But there are so many, who in so many ways, also contribute.

The WIA QSL service, an important part of the benefits of membership depends on many managers, and ultimately our National Coordinator, Neil Penfold VK6NE, who has gradually been able to provide the support and guidance the managers need.

Then there is Will McGhie VK6UU, who is working to preserve our history, scanning every copy of AR from the first issue, while Ken Matchett VK3TL maintains the wonderful WIA QSL Collection.

There are those who tackle tasks that are very important, but find it hard to get support, such as Glenn Dunstan VK4DU, with the Intruder Watch.

Then there is Mal Johnson VK6LC who has breathed new life into the WIA Awards and does get support!

There are those who contribute to this magazine, firstly, our article authors, then obviously the Editor Peter Freeman VK3KAI, the other members of the Publications Committee, Technical Editor Peter Gibson VK3AZL, Brenda Edmonds VK3KT (who also helps in the office at least one day a week), Ron Fisher VK3OM, Evan Jarman VK3ANI, Tom Potter VK3UBS, Bill Roper VK3BR, Ernie Walls VK3FM and the regular contributors, the DX News from John Bazley VK4OQ, ALARA news from Christine Taylor VK5CTY (and others), AMSAT from Bill Magnussen VK3JT, overseas news from David Pilley VK2AYD, VHF/UHF news from David Smith VK3HZ and SWLing from Robin Harwood VK7RH.

David Wardlaw VK3ADW, John Bishop VK2ZOI and Gilbert Hughes VK1GH represent the WIA at Standards Australia.

The WIA Bookshop is Chris Flak VK2QV.

Ted Thrift VK2ARA is the Clubs Coordinator, providing the basic communication with the clubs.

I think that a successful feature of 2006 was the first year of the Club Grant Scheme, with Rules carefully adopted by the Board to shift the hard decisions to the Grant Committee, Ken Fuller VK4KF, Deane Blackman VK3TX, and Wally Howse VK6KZ.

Until very recently Ian Godsil VK3JS, now Phil Smeaton VK2BAA, coordinate WIA contests and write a regular column for the magazine, with Denis Johnstone VK3ZUX looking after the John Moyle Memorial Field Day, John Martin VK3KWA looking after the Ross Hull VHF/UHF Contest and the Summer and Spring VHF/UHF Field Days and Peter Harding VK4OD taking responsibility for the Remembrance Day Contest.

EMC, ITU/WRC preparation and the like involve Keith Malcolm VK1ZKM as well as David Wardlaw VK3ADW and Gilbert Hughes VK1GH.

John Martin VK3KWA chairs the Technical Advisory Committee, with some 10 amateurs responsible for local liaison, and a technical panel with particular responsibilities including VHF Band Plans and records, the chairman, VHF/UHF Walter Howse VK6KZ, ATV, Peter Cossins VK3BFG, Microwaves Peter Freeman VK3KAI, EME Doug McArthur VK3UM, Packet Barry White VK2AAB, Digital Modes Rex Moncur VK7MO and Satellites Graham Ratcliff VK5AGR while Peter Mill VK3ZPP is the National Repeater Coordinator.

Then there is the team providing BPL assistance, led by Phil Wait VK2DKN.

Yet another team of regular contributors is the Broadcast Team, led by Graham Kemp VK4BB.

Then, the whole WIA Exam Service, our RTO Fred Swainston VK3DAC, Ron Bertrand VK2DQ who contributes so much in relation to the examinations, all the WIA Nominated Assessors and WIA Assessors contribute greatly to the WIA and amateur radio.

Continues Page 8

WIA News

WIA BPL Quick Response Kit

The WIA has recently assembled a quick response kit for making field strength measurements of BPL interference. The kit is based on the FSM technique developed by Owen Duffy VK1OD and Ed Hare W1RFI. The WIA will make the kit available to enable local radio clubs and others affected by BPL interference to measure the field strength levels with accuracy. Operation of the kit is reasonably straightforward but does require a basic understanding of field strength measurement techniques.

Accurate field strength measurements are important for us to demonstrate to the regulator in a scientific way, the level of interference to radio communications from BPL trials.

Photographs showing the various components of the new WIA BPL quick response kit can be found on the WIA website, www.wia.org.au .

Ballarat Club receives Club Grant

On Sunday 5 November 2006, the Ballarat Amateur Radio Group conducted its popular Hamvention, this year at a new venue, The Great Southern Woolshed, on the Western Highway east of Ballarat.

Over 350 people visited the event, featuring very many items of interest to amateurs on offer, raffles and door prizes.

WIA Treasurer Bruce Bathols VK3UV, Director Robert Broomhead VK3KRB and President Michael Owen VK3KI manned a WIA stand, enrolling 16 new members and selling many of the just released 2007 Callbooks, this year with the special CD featuring the ZL call listing as well other NZART information and many useful items of amateur software.

During the Hamvention Michael presented the WIA's Club Grant Scheme cheque for $900 to David Tilson VK3UR, BARG President.

The Ballarat Amateur Radio Group had submitted a proposal to upgrade its club station, allowing remote access. The Grant Scheme Committee said that the project was the most innovative of all submitted to the 2006 Grant Scheme, and that the proposal was very well presented and showed high levels of skill in project design and management.

Adelaide Scout Radio Activities Group receive Club Grant

WIA Director Trevor Quick VK5ATQ presented a cheque for $770 from the WIA Club Grant Scheme to the Scout Radio Activities Group in Adelaide. The grant was for construction of portable Amateur Position Reporting System (APRS) units that can be used to track groups of people.

Scouts involved in the construction included Gerard Rankin VK5ZQV, Peter Dodd VK5KDO, Sam Adcock VK5KSA and Dean Whitehorn VK5ZDW. Prototype units were on display at the presentation, demonstrating the operation of a position-reporting device.

To avoid the risk of Scouts engaged in remote trail walks and canoeing becoming lost, a GPS is connected to a small radio transmitter communicating to a receiver feeding a computer. The result is an accurate real time record of location of each team or canoe.

The APRS project will also introduce Scouts to amateur radio.

ACMA to investigate BPL interference

The extremely high level of interference experienced by radio amateur Ian Paul VK3FIOP (now VK3LJJ) at Mt Beauty, in northeast Victoria, is now the subject of a written complaint to the Australian Communications and Media Authority. He has exercised his right as the holder of an apparatus licence to lodge a formal written complaint to ACMA about the interference.

Ian claims firm ground for doing so. The interference was confirmed as BPL, its source known and substantial and harmful impact to this licensed amateur service communications well documented.

It has been reported that the BPL system operated by SP AusNet radiates 60dB over S9 signal emissions over the entire 3.5 MHz to 30 MHz spectrum.

Ian VK3FIOP appears to be the first VK radio amateur to actually lodge a formal complaint of interference to ACMA.

Without complaints, BPL operators may be able to claim that the technology is not cited in any formal way to have caused interference to radiocommunications.

It is vitally important that any radio amateur affected by BPL interference first verify that the interference is in fact caused by a BPL system, and secondly lodges an effective interference complaint with ACMA. Without a valid and effective interference complaint lodged with ACMA, little can be done.

The WIA provides a BPL interference advisory service to all radio amateurs - whether they are WIA members or not.

Mt Beauty BPL Trial Report

Peter Young VK3MV has prepared a report on his observations of the SP Ausnet BPL trial in Mt Beauty. Peter has made the report available for download from the WIA website for all interested parties.

Gold Coast Hamfest

On Saturday 11th November 2006, WIA Secretary Ken Fuller VK4KF, Vice President Ewan McLeod VK4ERM and XYLs Pat and Margaret VK4MEG manned a joint WIA and Gold Coast Amateur Radio Club stand inside the entrance to the Gold Coast Hamfest with Bob Tomkins VK4BT, while XYL Sue VK4ST was busy attending to GCARC matters on the day.

Bob rapidly sold out of Callbooks, the WIA merchandise was very popular and new members joined and were welcomed to the WIA.

Northern Tasmanian Amateur Radio Group receives Club Grant

On Saturday the 11 November 2006, WIA Director Robert Broomhead presented to Northern Tasmanian Amateur Radio Group (NTARG) a cheque for $1,900 to enable the group to purchase a new diplexer for their VK7RAA repeater. The submission for the grant was amongst the many received by the WIA and was selected by the Grant Committee on the basis of its purpose and benefit to amateur radio.

VK7RAA is located on Mt Barrow, approximately 45 minutes drive from Launceston and the installation of the new diplexer will allow both the transmit and receive antennas to be located on the same tower with increased elevation and better takeoff.

Continues on page 8

A jig for punching small holes in sheet-metal

Drew Diamond VK3XU

When making holes in thin sheet metals using ordinary jobber drills, it is usual for us to get a burred hole. And sometimes, despite our best efforts, the drill wanders out of the centre-punch mark resulting in a hole in the wrong spot.

If you often need to make clean round holes in sheet brass, aluminium and printed circuit board, consider fabricating a simple gadget along the lines offered here.

The jig consists of two parallel bars of ordinary mild steel (MS), held rigid by two high-tensile M8 bolts. A small spacer bar of 3 mm MS bar at the heel end provides a workable separation between.

Tool merchants and auto supply shops (eg Super Cheap Auto) usually sell "pin" or "scroll" punch sets. That shown in Photo 1 consists of a punch for 3, 4, 5, 6 and 8 mm, which should suit many applications in radio/electronics and model work.

Fabrication

Prepare two identical lengths of 40 mm x 8 mm MS bar of a length to suit the proposed application (300 mm is suggested). It is vital that the top and bottom halves of the jig should register perfectly. In the top half only, carefully mark and centre punch where the two 8 mm bolt holes shall be. Firmly clamp the top and bottom pieces exactly together upon your drill table. Now drill through both bars, first with a pilot of (say) 5 mm, then follow through with 8 mm. De-burr as necessary.

Place the two bars together, then install and tension the two bolts. Arbitrarily mark out upon the top bar exactly where each punch hole shall be located. Remember that a mounting lug must later be welded upon the underside, so allow room for the lug and a fillet of weld.

Drill an exactly similar diameter hole right through the top and bottom bar for each punch, as required. Suitably mark or stamp (suggest at the heel end) the top and bottom plates to assign congruency upon the final assembly.

Fabricate a spacer from 25 x 3 mm MS bar, 40 mm long, as shown on Fig 1. Using the top bar as a template, mark, and then drill two exactly corresponding bolt holes.

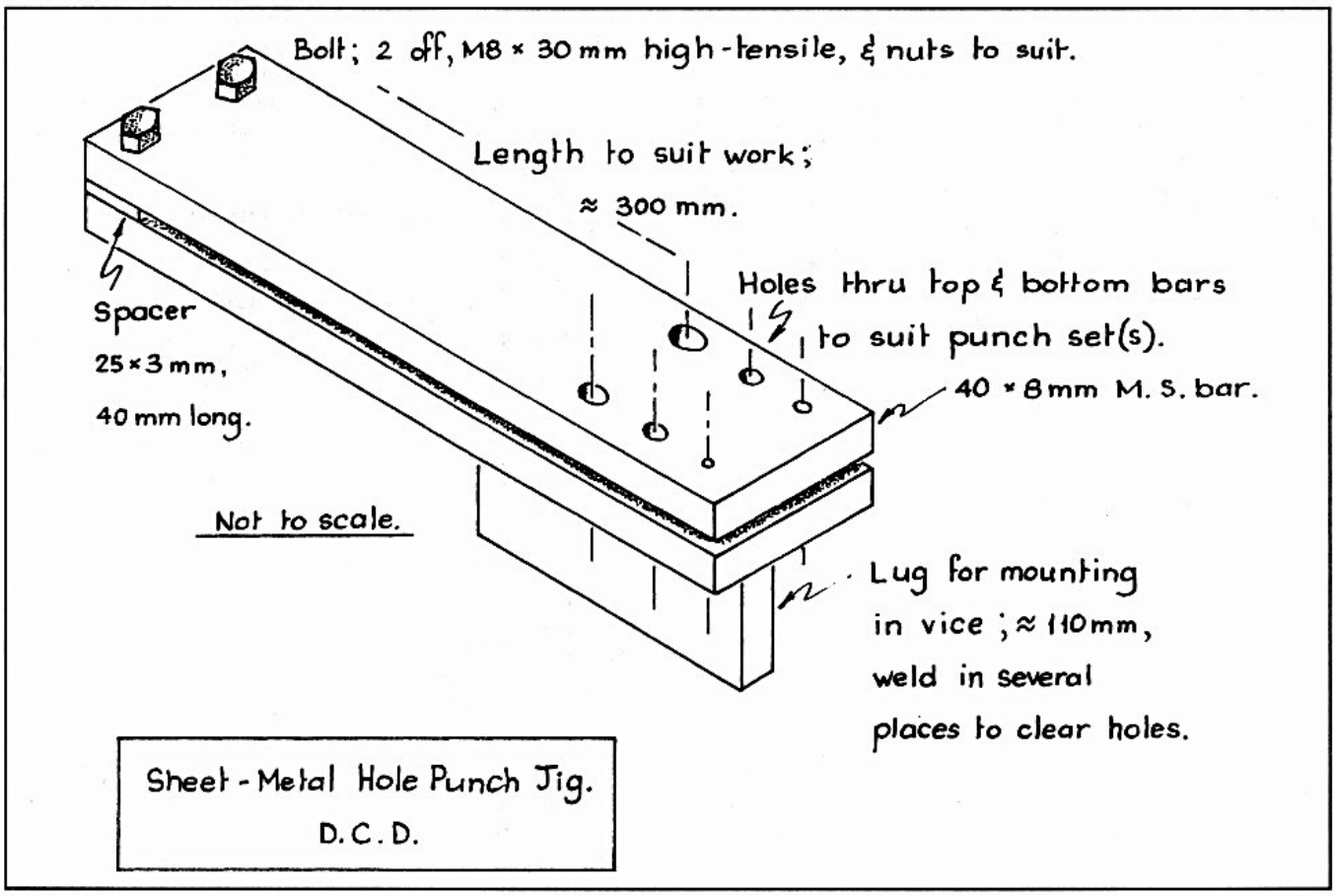


Figure 1

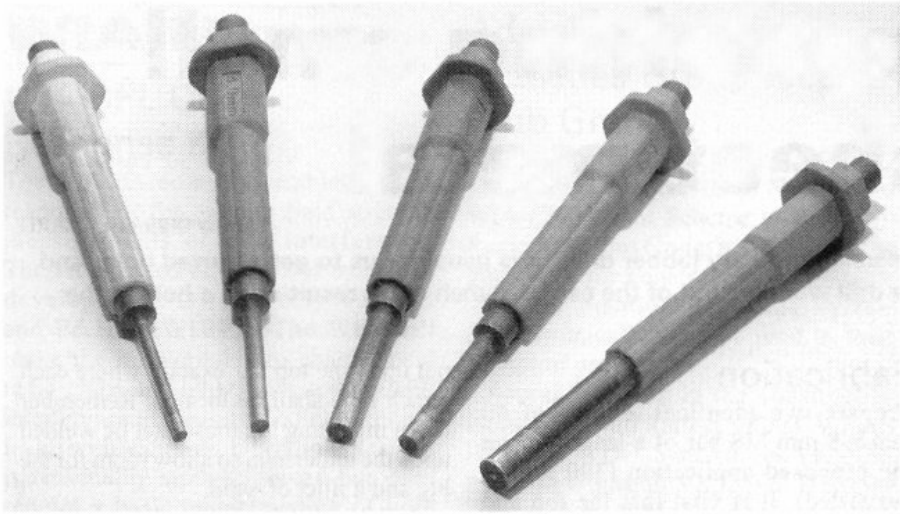
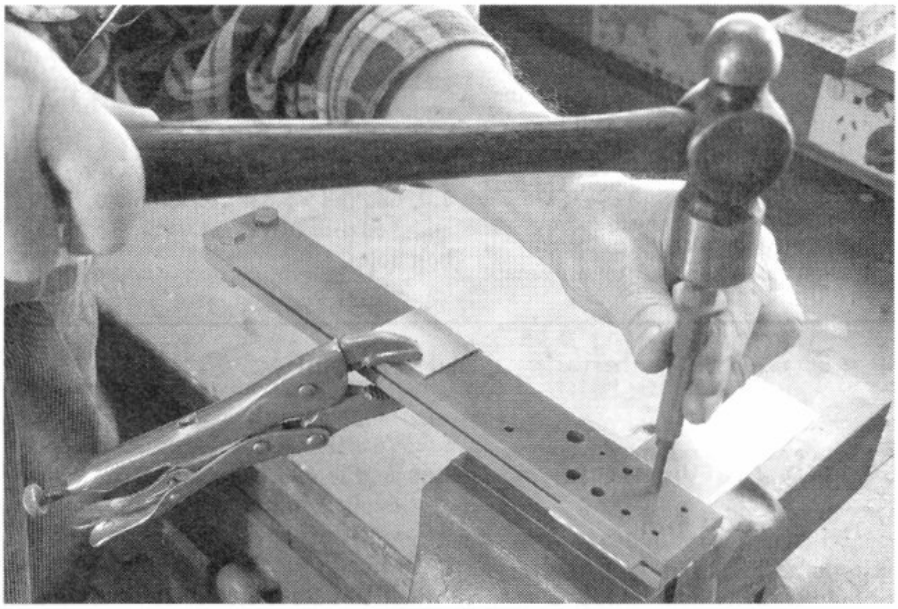


Photo 1



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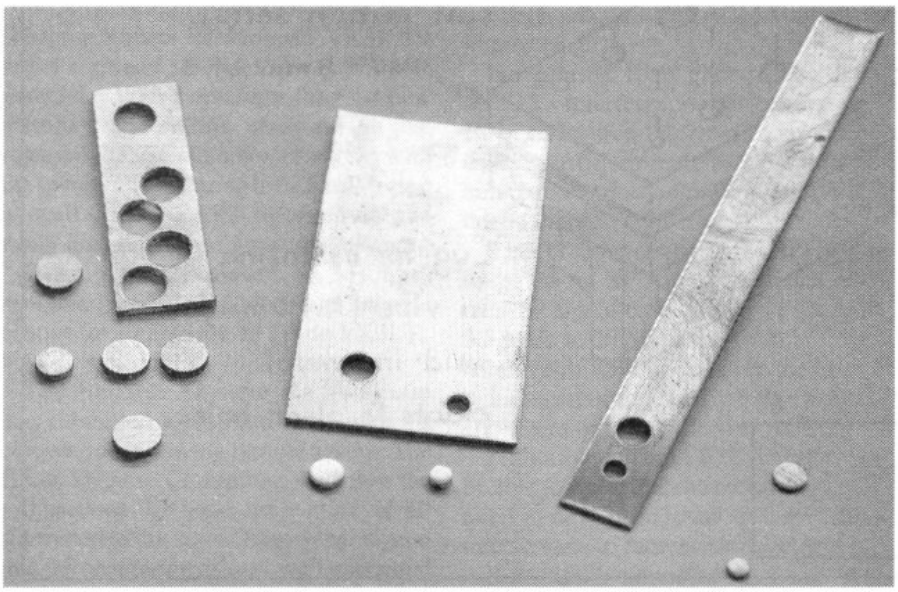

Photo 3

Assemble the jig initially by installing the two bolts and nuts to finger tightness. Insert all the punches in their respective holes and, with these in place (to maintain congruency), finally tension the bolts. The punches should remove easily.

The punch works better if the bottom hole is just a "bee's whisker" larger than the nominal hole size. For example, for the 3 mm enlarge the bottom hole by following through with the next larger drill size, a # 31 drill. For 4 mm use a drill size #21; for 5 mm use a #8; for 6 mm use a letter B; and for 8 mm use a letter O. For this operation, the bars should be spaced with a scrap of 25 mm x 3 mm bar inserted near the toe of the jig, drilling the bottom bar only, of course. Take care (use the drill-press depth-stop) that the drill does not enter the top bar. All holes should be de-burred by draw-filing.

A 110 mm length of 40 mm x 8 mm bar must be welded to the bottom bar to act as a vice fixing lug. Avoid welding close to the holes - simply dodge where necessary.

Operation

The jig is mounted in your vice, as illustrated in Photo 2. The exact hole position is sighted by looking straight down the top hole onto the job. A pair of vice-grip pliers will then be found very handy in bringing the halves of the jig together such that the work is firmly clamped in the exact position required. Any distortion (of the sheet-metal) is thus also prevented.

One or two hammer blows are applied with just sufficient force to punch out a slug, at which point the punch should be withdrawn (if the punch is driven right through, considerably more effort is needed to pull it back up through the work). The sheet metal is then removed, and the slug(s) may then be driven out of the bottom hole with little effort.

Examples of holes (and their slugs) thus made in printed circuit board, aluminium and brass are shown in Photo 3. The slugs obtained from printed circuit board may be saved, and used as "paddyboard" islands.

Reference

Electrical Things Boys Like to Make; Sherman Cook, pp 162-3, Lindsay Publications.

Photographs: Andrew Diamond.

ar

Cheaper by the dozen

Ian Gray VK2ICS
Secretary, Summerland ARC

Some years ago, there was a movie by the title of "Cheaper by the Dozen". How this relates to what we did at Summerland Amateur Radio Club will soon become apparent.

For a few months we had been discussing how we could organise a Foundation Licence course considering that we had no Foundation Licence assessors in our club. Fortunately, we have a very good relationship with our sister club, the Gold Coast Amateur Radio Society. This relationship has been built up over the years and many strong personal friendships have developed through this link. The Gold Coast club had a number of recently trained assessors and we felt that they might be able to come to our assistance. One of the members of the GCARS is Ron Bertrand VK2DQ, who is co-author of the Foundation Licence textbook, "Your Entry Into Amateur Radio" [1]. Ron had assisted our club on other occasions, so it was decided to approach him to see if he could assist. That assistance was very readily forthcoming.

At our end, we started word of mouth advertising and soon had around fourteen names on our prospect list. Ron advised that this was more than enough to conduct a course and carry out the assessments. As it was, we wound up with twelve candidates attempting the assessment. This explains my tongue in cheek heading of 'Cheaper by the dozen'. This wasn't meant to disparage the candidates, but we thought, at the time, that it would be easier to instruct and assess that number. In the lead up to, and during the course, all candidates were kept up to date via email.

We decided to run the course over two weekends, as we were unsure as to how long we needed to cover the information in the textbook. Ian Gray VK2IGS wrote the instruction schedule and, along with Leith Martin VK2EA, John Alcorn VK2JWA and Graeme Battistuzzi VK2JUB, we commenced the course on Saturday 25th March. By the end of Sunday 26th March we had covered the whole of the text.

Prior to commencing the course, all candidates had been requested to obtain the textbook through our club treasurer, John Alcorn VK2JWA. All complied. Ian VK2IGS sent out a seventy-question reading guide, based on the text, which all candidates were asked to complete and bring on the Saturday.

On Saturday 1st April, the candidates were given the answers to the seventy questions reading guide and any problems encountered were dealt with. Then they were given a 'trial' 25 question exam paper. This was marked on the spot and any problems discussed.

The theory exam was written without ever having seen a Foundation Licence examination paper but proved to be fairly close to the real thing. At least it gave candidates some experience at attempting a multiple choice radio exam. Around 2.00 pm on that Saturday, Kath and Roy Cottrill VK4IG, assessors from the Gold Coast club, arrived and some candidates elected to commence their assessments.

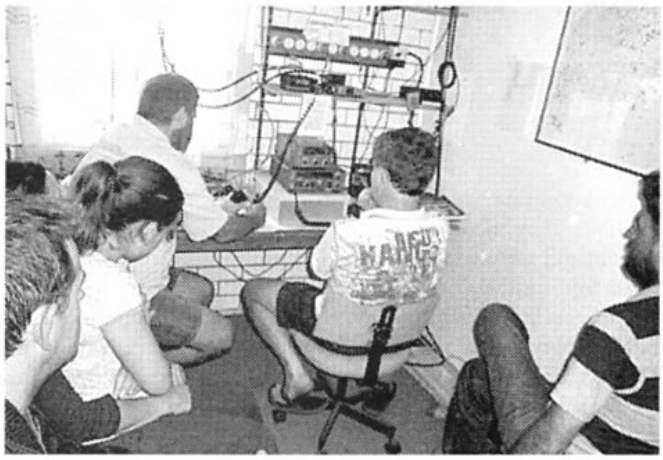

Photo 1 – Graeme instructing on QSOs.

Photo 2 – Ian lecturing from the left side.

The main assessment day was Sunday 2nd April. A team of six assessors, headed up by Ron Bertrand, arrived at around 10 am and commenced assessments. By 2.00 pm the remainder of the candidates had been assessed and all paperwork had been filled in. Ron then gave an interesting short talk on the Radio and Electronics School [2], which he manages.

Throughout both weekends, the 'troops' had been sustained by sausage sizzles, tea, coffee and slice (this delicious slice being made by one of the candidates, Tracey Battistuzzi). Four of our prospective assessors were able to observe proceedings and they were enthused to attend a training day in May. Many friendships with the OMs and XYLs from the GCARS were renewed and thus the two weekends came to a successful culmination. It must also be stressed that the continuing assistance rendered by Ron Bertrand VK2DQ, prior to and during the course, was invaluable. Thank you Ron!

The results, I hear you ask? Oh, just twelve successful candidates out of

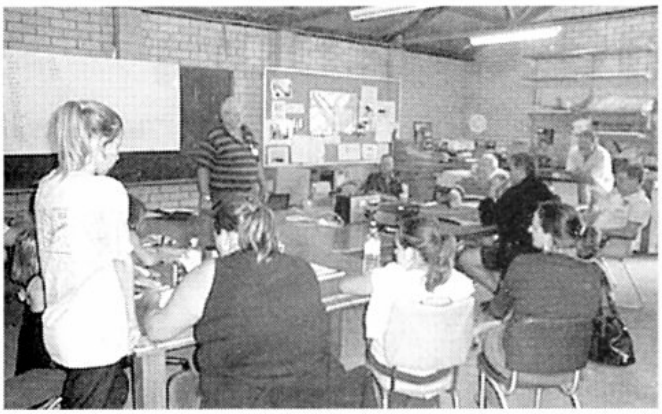

Photo 3 – Ian lecturing from the right side.

Photo 4 – Pat and Roy.

twelve! Summerland ARC also gained some new members.

What did we learn? Well, we learned that it takes a long time to assess twelve candidates and that it would be better if the numbers were around half of that. We also learned that weekends were not always suitable for candidates because of work and sport commitments. We will be looking at evening courses and a single weekend course.

We also learned that the candidates appreciated the continuing updates via email as the course approached and during the course. We also know that from here on, we will have to come to grips with publicising the course, as this one was simply advertised by word of mouth.

Summerland ARC feels that we have made a contribution to the ranks of amateur radio through this activity. Especially, when one considers the make-up of the course candidates: four female candidates, two of whom were twelve years of age, the other two female candidates being mothers of the youngsters, together with eight male candidates in their forties.

Photo 5 – SARC and GCARS after a successful day.

Summerland ARC would be only too happy to pass on any tips to other clubs who are considering this program.

Just drop the Secretary an email to: igray@ceinterent.com.au.

The photographs for this article were taken by John Alcorn VK2JWA.

1. Your Entry Into Amateur Radio, 1st Edition, Ron Bertrand VK2DQ and Phil Wait VK2DKN, Wireless Institute of Australia, 2005
2. www.radioelectronicschool.net.

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Continues from page 3

WIA Comment

Once you start it becomes a list without end. There are just so many people who contribute in so many ways to making the WIA what it is that even trying to list them is an impossible task.

And that is the point.

There are so many people we should acknowledge and thank.

Recently I was shown the magazine of an organisation structured a bit like the WIA, and there was a piece about those seeking election to the committee. It made the point that there was no point volunteering for the committee unless you had the skills that would contribute to the organisation and the time to contribute those skills.

I am sure that the directors, who on your behalf thank all those who make the WIA what it is, are also very aware of the need for skill and the need for time in what they do to make the WIA worth supporting.

As I said at the outset, it was the late Chris Jones who believed fervently that the WIA would grow and prosper if it delivered service and avoided conflict.

I agree, and I hope I have mentioned, directly or indirectly some of the many who do deliver service on behalf of the WIA and contribute to amateur radio, which is, in the end, what the WIA is all about.

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Continues from 4

Delay – 2007 Callbooks

Some clubs and individuals have suffered a slight delay in the delivery of their 2007 Callbooks.

The 2007 Callbook includes a completely new CD, featuring the Australian call list and information, but also the NZART Callbook and New Zealand information, as well as a selection of amateur software.

Unfortunately, when the Callbook was delivered it was discovered that the CDs were defective, and so had to be replaced.

All Callbooks on order have been dispatched, and all CDs sent out before the defect was discovered will have been replaced.

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Notes on the "drilled Perspex" method of making low-loss transmitting coils

Drew Diamond VK3XU

In this, and other amateur journals, we have read about the various techniques that a home-constructor might use to produce low-loss "air-wound" style coils, using wooden jigs and other appliances for the job (References 1 - 5). But, for the builder who may only fabricate the occasional coil, the pre-drilled acrylic sheet (Perspex) method briefly described in Reference 6 has much to commend it.

As with all handiwork operations, the secret to success is measuring, marking and machining accuracy. In the following example, we construct a 12 µH coil (one of two) for a new balanced coupler project. Spacing between turns shall be 5 mm to allow for alligator-clip adjustment.

The oft-quoted (and quite accurate [approximation]) formula for calculating the inductance of a single-layer solenoid coil of reasonable dimensions, wire gauge and turns spacing is

$$L = \frac{r^2 \times n^2}{9r + 10l}$$

where L is inductance (µH), r = coil radius,(inches) l = winding length (inches) and n = number of turns.

{Editor's note: The source of this formula [Reference 7] is not metric. When using the standard metric unit millimetre (mm) instead of inches remember to divide the result by 25·4 to get the inductance in micro Henries}

Usually, however, we have a pretty good idea as to the inductance required and the physical dimensions of the coil, but we need to know the number of turns necessary, so the formula may be re-arranged to give the number of turns n, thus:

$$n = \frac{\sqrt{L(9r+10l)}}{r}$$

In the example here, radius (coil axis to wire centre) is 1·25 inches (32mm), winding length l is 3·75 inches (95mm) (please excuse my mixing mm and inches - nevertheless the formula is neater in their original "Wheeler" form). *{Editor's note: When using the standard metric unit millimetre (mm) with micro Henries the result will have to be multiplied by the square root of 25·4 to be meaningful}.* For 12 µH, we need 19 turns. 1·9 mm enamelled copper wire is chosen for two reasons; effective RF resistance

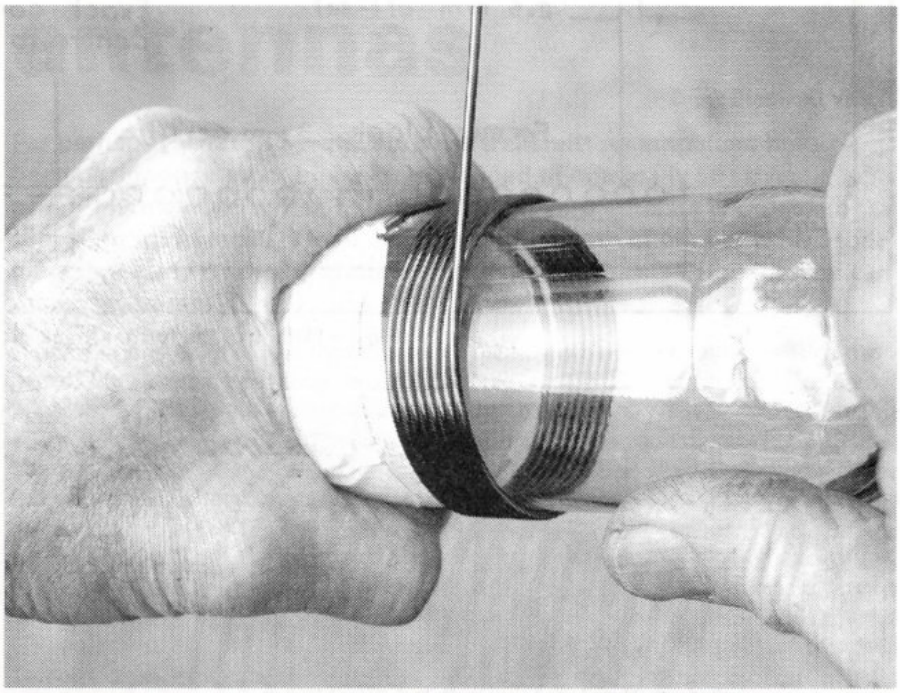

Photo 1 – Winding the helix.

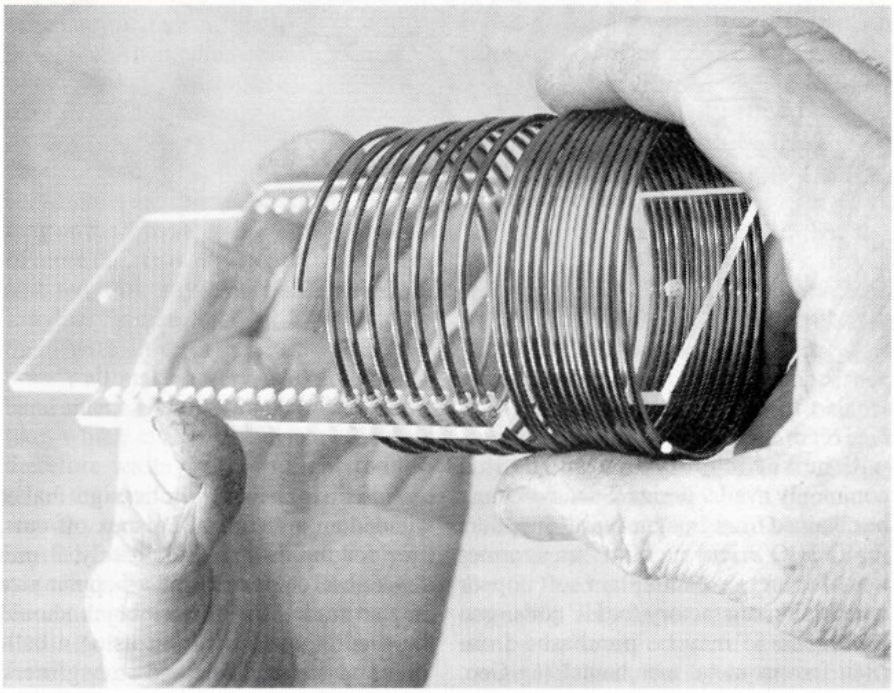

Photo 2 – Winding the helix on to the former.

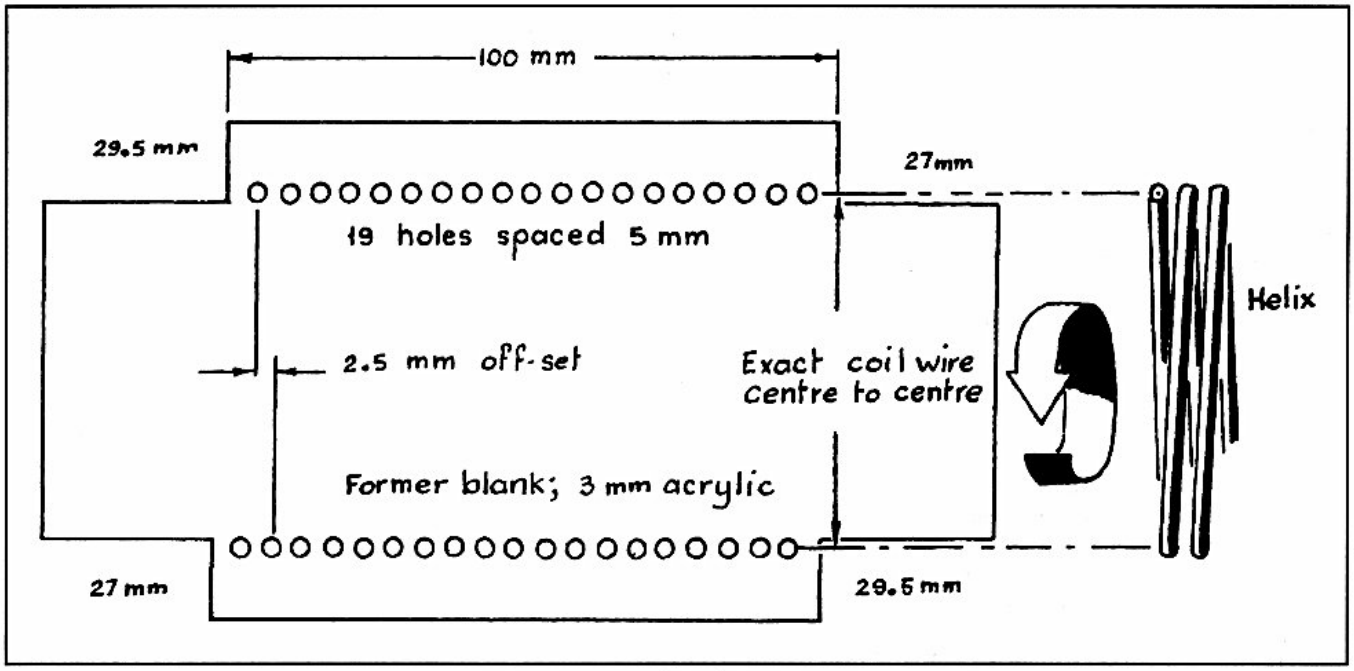

Fig 1 – Details of the former blank.

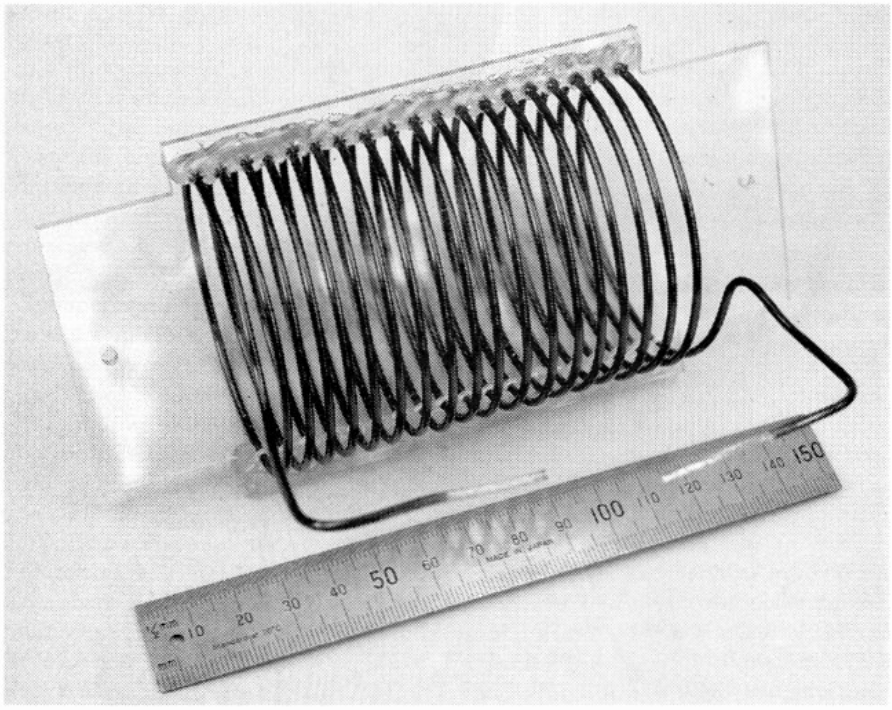

Photo 3 – The completed coil.

will be sufficiently low and it is a commonly available size. Such wire may be obtained from "magnet wire" suppliers (eg O H O'Brien) or from "transformer manufacturers". 2 mm plain soft copper wire (quite satisfactory for HF coils - see Reference 8) may be purchased from "non ferrous metal merchants" (eg Geo. White).

A visit to a local plastic sign maker yielded an arm-full of Perspex off-cuts, free for the asking. Fortunately, 3 mm thick sheet appears to be a popular size in that trade. The former blank should be accurately marked out using a ball-point pen, a steel rule and an engineers' square. The extensions shown in the drawing serve as a useful lead-in guide when winding the coil, and they provide suitable lugs for mounting the finished coil.

To prevent shattering the Perspex, use a hack-saw blade with 32 teeth-per-inch to carefully cut to size. Square up and smooth rough edges with a second-cut file that has a "safety edge".

Here is an important tip: do not drill the coil holes until the helix (coil) has been initially wound, as described next.

For use as a mandrel, find an exactly cylindrical object, such as a bottle, which has a diameter about 14% smaller than the required coil diameter. In this instance, the final coil diameter is 63·5 mm (2·5"), so the mandrel should be about 55·5 mm in diameter. I had no trouble finding a suitable 275 ml vodka bottle of exactly that diameter upon the road-side, kindly supplied by one of our local hoons.

Calculate the length of wire required; $\pi \times d \times n = 3{\cdot}14 \times 55{\cdot}5 \times 19 = 3{,}311$ mm. We must wind on at least two extra turns, because about two turns will unwind when the helix is released from the mandrel. And we shall need "tails" for lead connections – so let's make it an even four metres.

Anchor one end of the wire then, with bull-nose pliers, give the wire a firm pull to remove any small wrinkles. Use masking or packing tape to stick one end of the wire on to the mandrel. Whilst maintaining a firm tension upon

the wire, walk towards the anchor and carefully close-wind the helix such that each new turn touches the last, as pictured in Photo 1.

When the helix is removed, measure the exact wire centre to wire centre diameter of the coil, and mark your former blank accordingly, taking particular account of the winding "sense" of your coil (that is, clockwise or anti-clockwise). Note that the holes must be off-set by exactly half the winding pitch (2.5 mm).

Drill and countersink just a few holes initially, then test that your helix may be easily "screwed" into the holes - there must be little opposition. Adjust the remaining holes accordingly. The wire holes need only be a tad larger than the wire diameter. A $^{3}/_{32}$" (2·38mm) drill is about right for 1·9 mm wire. Lightly countersink both sides of each hole to reduce the winding friction.

Carefully screw the helix into the former, as illustrated in Photo 2. You should finish with a spare turn or two at each end. Align any wayward turns, then apply a bead of hot-melt or epoxy glue (both satisfactory for RF work) along the coil holes on both sides, as shown in Photo 3.

References and Further Reading

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3. "Making Air-Wound Coils for HF"; *Amateur Radio*, Feb 1994.
4. "Making "Air-Wound" Transmitting Coils"; *Amateur Radio* June 2000.
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6. *Radio Communication Handbook*; RSGB, 4th Ed, p 13.36.
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Photos: Andrew Diamond ((www.andrewdiamond.net)

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A balanced pi coupler for balanced antennas

Drew Diamond VK3XU

For perhaps the last 30 years, amateur transmitting amplifiers have been designed to work into a resistive load of nominally 50 Ω. As far as is known by this writer, no efficient back-yard antenna is capable of providing a perfect 50 Ω load over the entire width of our eight HF bands. It is often said, "You can't change the laws of physics". True - but you can get around them.

Where the amount of wire in the radiating part of the antenna, be it loop or dipole, is of sufficient length, interposing an efficient coupling circuit between the transmitter and the station end of the feed-line will usually allow a good match (low SWR) to occur between the transmitter's output amplifier and the line, regardless of the SWR on the line between coupler and antenna.

Popularly called an "ATU" (Antenna Tuning Unit) - or more correctly, Antenna Coupling Unit (ACU), these devices, their application, circuitry, relative efficiency and so on, make a perennially hot topic. An antenna coupler is the sort of device that a reasonably handy person may construct cheaply using ordinary tools, yet achieve results as good as any "bought" one.

A dipole, at least a quarter wavelength long on the lowest required band, or a loop of more than (roughly) a half wavelength and fed with any reasonable length of low-loss "ladder-line", or a home-made open-wire line, or a "dumb-bell/dog-bone", all make a very workable multi-band antenna. Unlike trap dipoles and the like, which effectively disconnect (and therefore waste) wire on higher bands, all of the available antenna wire is used on every band. That the SWR on the line beyond the coupler may be (probably is) quite high, is of no concern to us, because the conductors are low resistance copper, and the dielectric (the material between them) is mainly air (Reference 1).

The usual commercial approach to feeding a balanced* antenna is to use a "tee" or "SPC" "transmatch" (Reference 2), that is a very adept circuit, capable of matching a wide range of impedances to our 50 Ω. However, the "tee" alone is not a naturally balanced circuit, and so a 1:4 "balun" is shoehorned into the box to permit feeding a balanced line. Admittedly, the SWR on the radio/coupler coax connection can usually be adjusted for a low SWR, but that poor balun, which can only operate properly if it "sees" a resistive impedance of 200 Ω, often has to look into some other complex impedance. The result is poor efficiency, balun core heating, arcing between balun coils and drastically unequal currents in each leg of the line.

Some experimenters have had success in placing a "current" or "choke" balun on the input side of the coupler (Reference 3). My experiments indicate that this approach may only work over our mid-HF bands. Balance is hard to maintain at the high HF end. Furthermore, on 3.5 MHz the choke "balun" may not present sufficient longitudinal impedance, resulting in significant out-of-balance currents flowing over the coax braid back towards the transmitter, thus indicating poor balance and efficiency.

The popular "Z-Match" circuit, promulgated and improved by Lloyd Butler and others (Reference 4), is arguably the simplest, most effective, almost-balanced coupler for the mid-HF range, but it may (in my experience) be a little quirky at the high and low HF end.

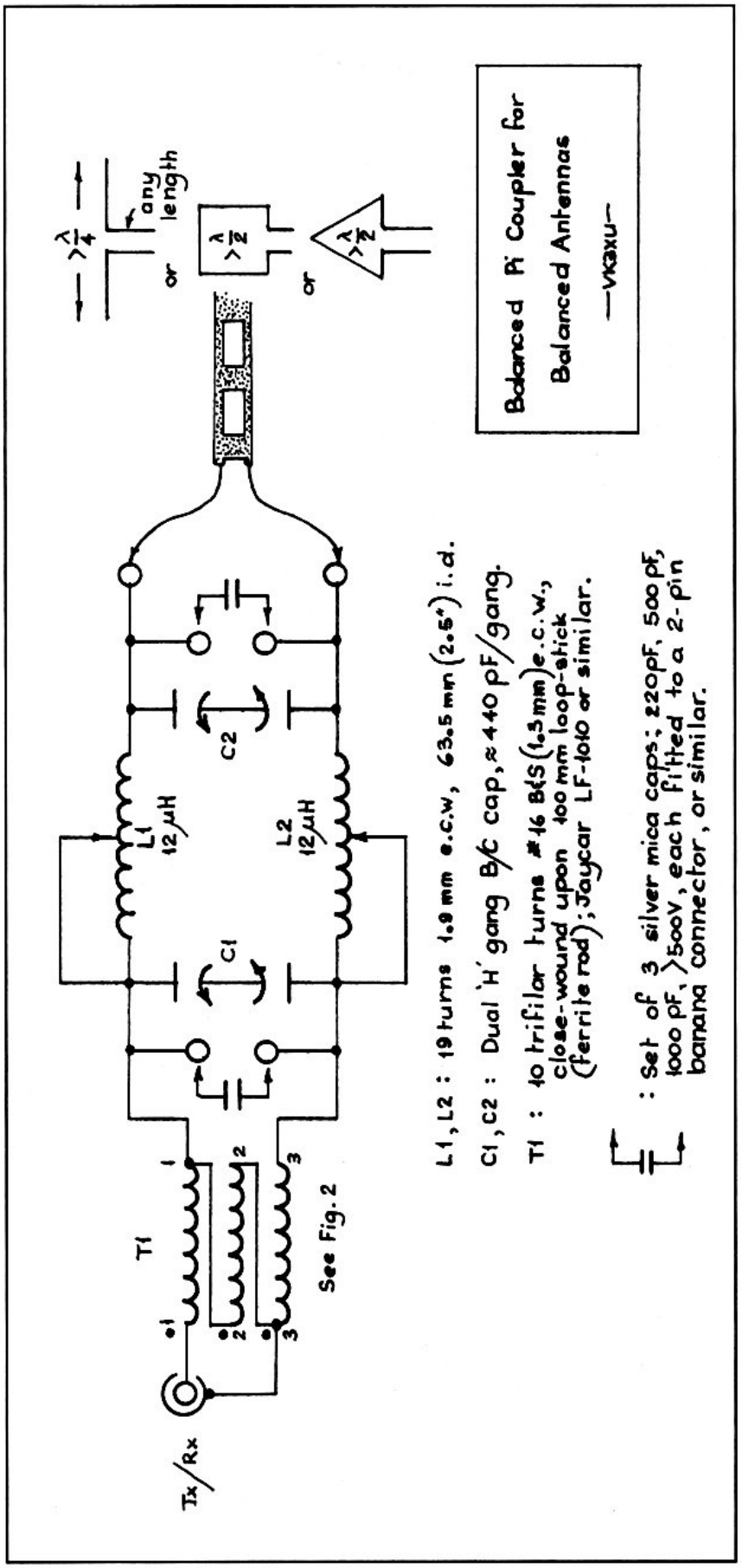

Fig 1 – Schematic of the balanced pi coupler for balanced antennas.

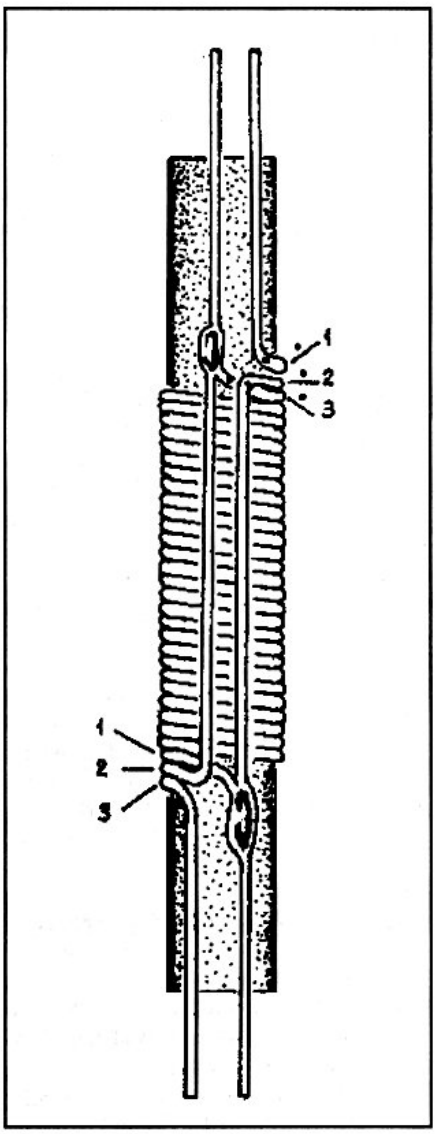

Fig 2 – The balun

Furthermore, under some conditions, the ordinary broadcast gang capacitors normally employed (by most builders) may flashover, even when operated at modest power levels.

Of all the known popular coupler circuits tested, the traditional balanced "link" type remains (in my opinion) the most versatile and efficient (References 5 - 8). But now it seems that many operators demand an ability to change bands quickly, and will not "waste" those few moments needed to optimise the four or five link-coupler variables for each band change.

Recent work by Measures (Reference 9, reported in 10 and 11) and others (Reference 12), upon the "re-discovery" of the balanced pi-network (attributed to Arthur Collins [Reference 13]), has awakened interest in a sadly neglected

circuit configuration. Again, however, Measures has employed, on the input side of the coupler, a "choke" balun, which is a less than satisfactory device. It is not a true balun, and has some limitations, the main one being insufficient series impedance at the low HF end. When a true three-winding transformer type balun is used, the full potential of the balanced pi circuit may be realised, and the coupler performs correctly across the entire HF range.

Tests using the prototype model at the 120 W power level with various antenna configurations indicate that, as far as may reasonably be determined, a good, efficient match between transmitter and line may be had on any HF band between 3.5 and 29 MHz. Moreover, virtually identical currents measured in each leg of the line (feeding a balanced antenna) show that the coupler is operating in a balanced manner.

Circuit

See Figure 1. The unbalanced 50 Ω input is converted to 50 Ω balanced by use of the aforesaid 1:1, three-winding balun. By adding a second capacitor on the input (left-hand-side) of the pi, the matching range is considerably increased.

C1 and C2 are ordinary two-gang broadcast capacitors of 440 pF per gang. They each effectively operate in series, so their maximum capacity is 220 pF, which may be insufficient in some circumstances on 3.5 and 7 MHz. If more capacitance is required, additional fixed mica capacitor(s) of 220, 500 or 1000 pF may be connected in parallel with C1 and/or C2 as required. The 500 and 1000 pF capacitors are fitted to dual banana plugs so that they may be "piggy-backed" to obtain an extra 720, 1220, 1500 or 1720 pF.

Ideally, L1 and L2 should be ganged roller inductors. However, a good workable plan is to employ a pair of air-wound inductors, each 12 µH, tapped every turn. In accord with standard practice, the unused portion of the coil is short-circuited to prevent damaging voltages from being produced in the unused portion by step-up transformer effects (Reference 14).

Under certain weather conditions, an antenna may acquire a considerable static electric charge from rain or wind. Fortuitously, balun winding number two provides a DC return path to ground, such that both sides of a dipole are

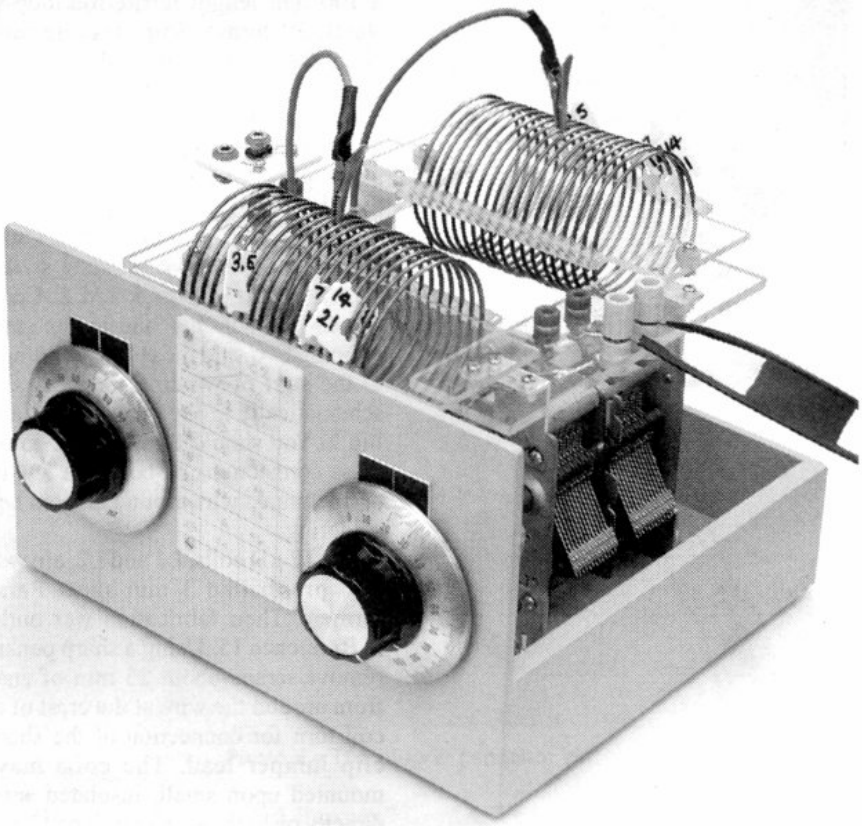

Photo 1 – Balanced pi coupler.

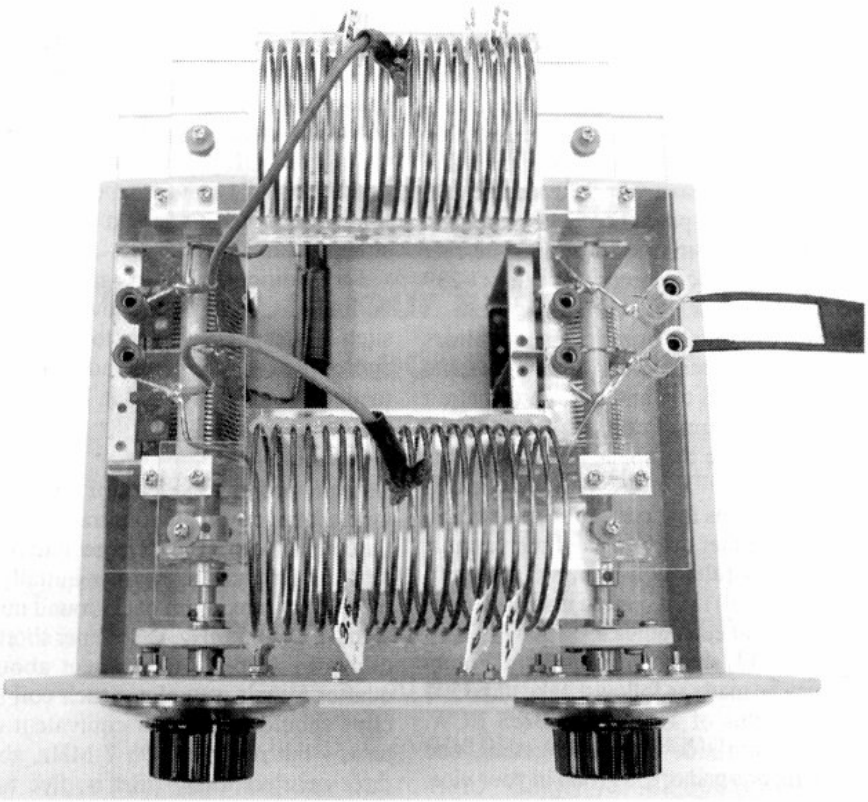

Photo 2 – Plan view of the pi coupler.

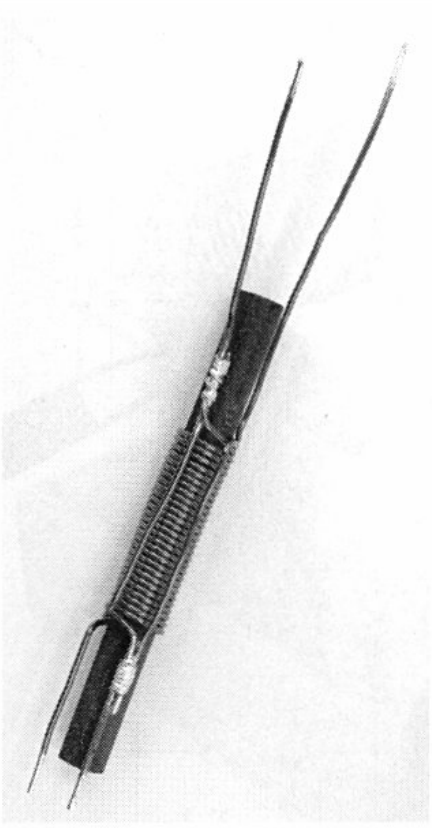

Photo 3 – The balun.

discharged.

Construction

To circumvent sources of capacitive unbalance to nearby grounded objects, the coupler should be built upon a non-conducting base, or chassis. The assembly shown in Photos 1 and 2 has an MDF baseboard measuring 250 mm x 200 mm. The front panel is of Masonite, and measures 250 mm x 150 mm. The rear panel, which accommodates the SO-239 coax connector, is 60 mm high.

My two-gang broadcast capacitors have home-made aluminium L-section brackets fitted top and bottom to permit mounting 3 mm Perspex plates. These accommodate the banana (f) connectors (spaced 0.75"), and a pair of binding post terminals for connection of the feed-line. Note that the frames of the variable capacitors (although nominally at zero RF potential) must remain insulated from ground and each other.

Balun T1, shown in Photo 3 and Figure 2, may be made as follows. Take three 500 mm lengths of 1.3 mm/16 B&S ECW. Place them side-by-side together, and then fix one end of the group in your vice. Whilst maintaining a constant tension on the triplet, carefully wind 10 turns onto a 100 mm length ferrite-rod/loop-stick (total, 30 turns). Snip, leaving tails of about 20 mm one end and rather longer tails of 60 mm at the other (the short tails connect to the coax connector, the longer tails should be twisted together to form a 50 Ω pair for connection to the bottom lugs of C1).

Remove 10 mm of enamel where connections shall be. Winding starts are shown dotted in Figs 1 and 2. Connect the end of winding one to the start of winding two, and the end of winding two to the start of winding three, as shown schematically in Fig 1, and pictorially in Fig 2. You should find it easier to make these connections by coiling a few turns of fine tinned wire around the join before soldering.

The 12 µH coils, L1 and L2, are wound into pre-drilled 3 mm sheet Perspex formers. Their fabrication was outlined in Reference 15. Using a sharp penknife, remove/scrape about 25 mm of enamel from around the wire at the crest of each coil turn for connection of the shorting clip jumper lead. The coils may be mounted upon small, insulated spacers directly on to the aforementioned Perspex plates that accommodate the banana sockets and feed-line binding posts.

The shorting jumper leads should be fitted with good-quality alligator clips. The puny little clips normally available, when tested, became rather warm (indicating excessive contact resistance), yet we need clips that fit easily between the coil turns. If you have two of the very good "Utilux" types, use them. The wire for the jumper leads should be at least 32 strand/0.2mm.

The additional plug-in capacitors may be fitted to rectangles of low-loss sheet, such as acrylic/Perspex, together with appropriate banana plugs and sockets in a manner like that pictured in Photo 4.

Operation

Using appropriate lengths of 50 Ω coax, connect the output of your transceiver to the coupler with an SWR meter interposed between. Adjust the coupler initially on receive for maximum background noise/signals. On 3.5 MHz, the jumper shorting clip may (typically) connect about a quarter to half way along each coil (the clips should each be at equivalent coil turns - but read on). On 7 MHz, about three-quarters along (that is, five turns in-line, or not shorted); on 14, 18 and 21 MHz, about three turns in-line; and on 24 and 28 MHz, about two turns. Bread bag closers pegged on to coil turns are handy for recording coil settings for each band.

When the coupler appears to be near optimum, and using a clear frequency, apply a low-power CW tuning signal and adjust C1 and C2 for lowest SWR. If the SWR will not come down to a low value, move the shorting clips to an adjacent turn and try again (although they are not at a dangerous potential, do not touch the clips when transmitting). On 3.5 and 7 MHz, you may need to plug in extra capacitance across either C1 or C2 - "piggy-back" where necessary (that is, where the capacitor "bottoms-out" at full mesh on a downward trend in SWR).

Hint: To achieve a very low SWR, it is possible to "fudge" a bit by positioning one clip lead one turn out of step with the other, with little effect on the line balance.

It is suggested that some means of monitoring the current in each leg of the feed-line be installed, such as either a very simple twin-lamp-on-a-loopstick device (like that described in Reference 16), or a twin RF ammeter, such as in Reference 17 (old timers were fond of saying: "It's amps up the stick that does the trick").

Summary

Amateurs everywhere maintain a keen interest in the many types of antenna coupler, or "ATU" configurations. With up to eight HF bands available, it is usual for us to make one antenna operate on several, or all bands, which makes it necessary to employ an effective, wide-range coupler.

Popular dipole and loop antennas are "naturally" balanced, yet few of the commercially made couplers are capable of properly and efficiently interfacing between the unbalanced 50 Ω input/output of the radio, and a balanced antenna.

A number of experimenters have been re-discovering the benefits of using a balanced pi configuration. Based upon this work, a more practicable model has been built using locally obtainable parts, and proven to perform very satisfactorily, thus rivalling the traditional "link-coupler" in effectiveness.

Parts

The ferrite rod/loop-stick for the balun is a Jaycar LF-1010. Similar suitable rods are also available from the other electronics

parts suppliers. The banana plugs and sockets are quite generic. Additionally, Altronics offer a stackable dual banana plug, P-0298.

500 V silver mica capacitors may be mail-ordered from Antique Electronic Supply (www.tubesandmore.com).

My dual gang variable capacitors (which are not rare items), insulated couplers, and two nice "National Velvet" vernier dials (verniers are not essential, as adjustment of C1 and C2 is not fiddly) were obtained at local swap-meets.

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16. "A Current Indicator for Open-Wire Transmission Lines"; Diamond, Amateur Radio, Jan 1999.
17. "RF ammeters for high-frequency measurements"; Diamond, Amateur Radio, Nov 2004.

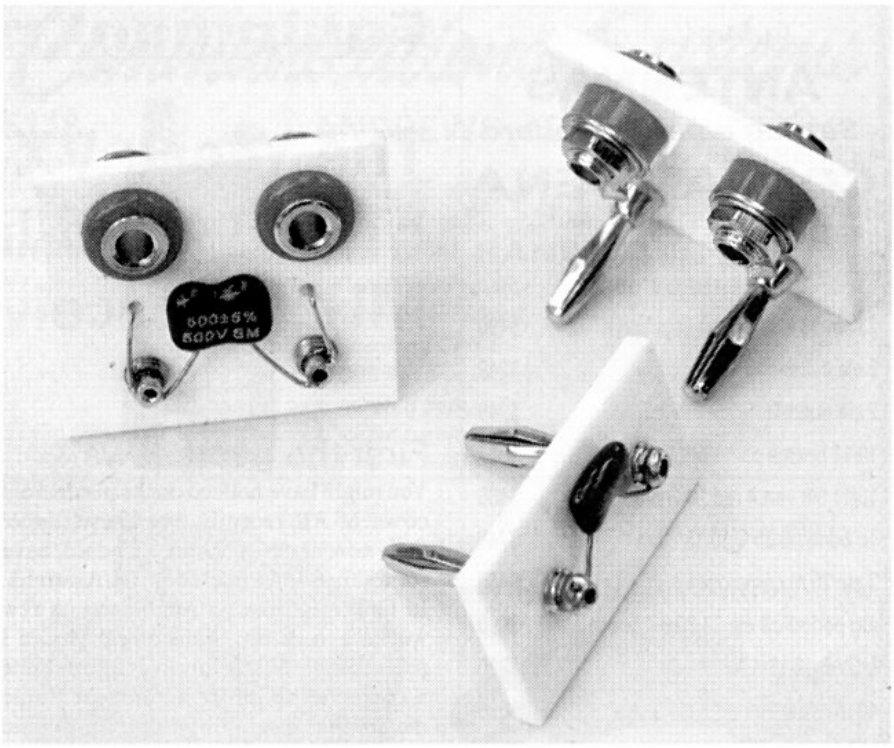

Photo 4 – The plug-in capacitor set.

Photos: Andrew Diamond
(www.andrewdiamond.net)

*A feed-line is said to be operating in a "balanced" manner when the instantaneous current in each leg is of the same amplitude, but flowing in opposite directions, and the voltage on each leg is equal, but of opposite polarity relative to ground. Their respective magnetic and electric fields are then strictly confined to the line, resulting in the highly desired condition of little or no radiation or pick-up from the line.

ar

Equipment review

The Yaesu VX-6R and FT-60R hand-held 144/430 MHz transceivers

Ron Fisher VK3OM
ronlyn@nex.net.au

First the good news.

You might have noticed on the inside front cover of AR recently that Yaesu, under their new name of Vertex Standard, have set up their own operations in Australia. In fact, right here in Melbourne. A few weeks ago, Ernie Walls VK3FM and I paid them a visit. Firstly, to introduce a couple of faces from Amateur Radio magazine and secondly to see if we could borrow some equipment to review. It was a case of "what would you like to have?"

I thought that a couple of dual-band hand-held transceivers which might be suitable for new Foundation Licence holders would be a good way to go. Ernie and I were presented with about six of their current range. What to pick? My thought was something with a reasonable power output that could at least access a few local repeaters for those in urban areas and perhaps cover 100 km with an outside antenna for country operators. On that basis, we picked two with five watts output which is about the upper limit for hand held transceivers.

The two chosen were the VX-6R and the FT-60R. Although the designations are similar, they have very different facilities which I will discuss later. For many years, I have used an ancestor of these transceivers, a FT-209RH. This 20-year old transceiver is about three times the size and nearly three times the weight of these new rigs. However, it puts out 6 watts plus and has all of ten memories. Hand held transceivers have come a long way in 20 years. So, let's start off with the VX-6R.

The VX-6R

VX-6R

This is the smaller of the two, weighing just 270 g and it has the greater receive frequency coverage. In fact, it has continuous coverage from 500 kHz right up to 999.990 MHz. Before you think you might be able to dispense with your good communications receiver, you need to consider a few things. First, the antenna is only about 19 cm long, not exactly an outside dipole. Next, although it has continuous coverage the tuning steps on the shortwave bands

continued on page 20

Andrews Communications Systems

ANDREWS TS-5118

$99 Factory direct importer

2 m 2 W HANDHELD

- Commercial quality
- 100 ch. memory
- Scanning searching
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- NiCad battery
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✸ ONE YEAR WARRANTY ✸

ANDREWS FD-160A

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VX-7R Deluxe Tri band Handheld	$539
FT-60R Dual band Handheld	$349
VX-170 2 m Handheld	$249
FT-817ND HF–70 cm Portable	$949
FT-857D HF–70 cm	$1299
FT-897D HF–70 cm	$1399
FT-2800M 2 m Mobile	$299
FT-7800R Dual band Mobile	$429
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Yaesu antenna tuners & rotators discounted	
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DX-70TH HF–6 m Transceiver	$1199
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Equipment review: The YAESU VX-6R and FT-60R hand-held 144/430 MHz transceivers

continued

is a minimum of 5 kHz. Taking all of that into account, with a piece of wire five or six metres long and a few turns around the stubby antenna, I was quite amazed at just what I could hear. The stronger international broadcast stations came in loud and clear. There is, in fact, a pre loaded memory bank with 89 short wave frequencies which cover most of the international broadcast channels. These are identified with the country to which you might be tuned. There are no facilities for SSB reception, so amateur band reception is not really possible. Standard broadcast band reception was reasonable but again a short wire improved performance greatly. Of course, the higher in frequency you tune, the better it gets, so the FM broadcast band is really quite good. The aircraft band is as good as a dedicated receiver that I often use and of course the sensitivity on the 2 m and 70 cm band is as good as, if not better than, many hand-held transceivers. The receive audio quality is better than average. Now, let's look at the operation on the two amateur bands.

First, its memories: How about 900? These are arranged into 24 banks, with two special banks. The first special bank I covered above, the second is programmed for the VHF marine channels. This leaves plenty for normal amateur operation. Memories can be labelled with their frequency or you can give them a name which could indicate location. Maximum power output is five watts, but there are three lower settings. These are 2.5, 1.0 and 0.3 watts.

If you like tuning around your choice of steps is 5, 10, 12.5, 15, 20 and 25 kHz. In most cases, I prefer to set it to 25 kHz, which fits in with the Australian band plan. Audio reports on transmit were very good and the received quality was well balanced with very good high frequency response. Sitting in my shack I was able to access several repeaters with the furthest about 120 km away.

All in, this transceiver was a delight to use. I spent hours just tuning around. If I owned a VX-6R, I'm sure I would spend more time listening than transmitting. As a passing thought, if you are a scuba diving enthusiast, take the VX-6R along with you. It's water proof down to about one metre.

The FT-60R

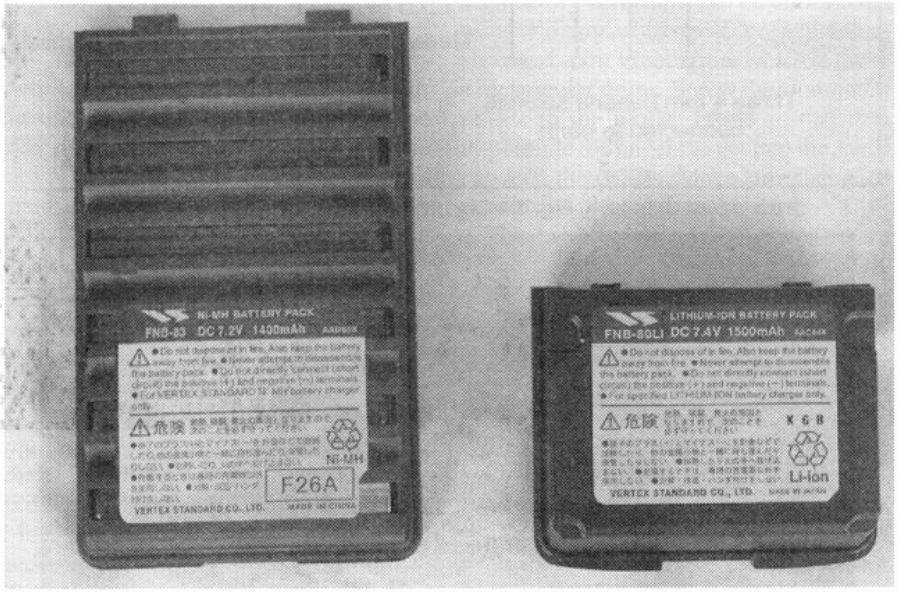
This unit is the heavy weight of the pair. It is exactly 100 g heavier than the VX-6R. However, at 370 g, it is certainly not overweight. It is very comfortable to hold and has quite a chunky feel. The full general coverage receiver is not available with a low frequency end starting at the start of the aircraft band at 108 MHz. From there it goes to 520 MHz. Then from 700 to 999.999 MHz .It also has five watts maximum output with two lower power settings. These are 2 watts and 0.5 watts. Memory capacity is an amazing 1000 plus. The 'plus' amounts to 50 band edge memories, and ten weather broadcast channels. These weather channels do not exist in Australia as yet. The normal memories are arranged in ten banks. If you are planning a visit to Europe, 1750 Hz tone burst is included, which will give you access to repeaters in that part of the world.

On-air testing resulted in excellent audio reports on transmit. On receive, I thought that the audio lacked high frequency response. I certainly preferred the sound of the VX-6R. However if you are buying one, have a listen to both, you may have a preference either way.

FT-60R

The batteries supplied with these transceivers are interesting. The FT-60R is supplied with the FNB-83 battery pack, rated at 7.2 volts 1400 mAh. The VX-6R comes with the FNB-80LI, which is rated at 7.4 volts and 1500 mAh. Look at the

continued on page 27



Two battery cases – similar capacity, but very different sizes due to differing battery technology

Electrical safety at the workbench

Kevin B. G. Luxford VK3DAP / ZL2DAP
kevinluxford@bigfoot.com

Electrical safety is something that we should not take for granted. Few amateurs would think that they do, yet how often do we audit the area where we construct, or operate, our gear?

Some years ago, I asked an electrician to refurbish my electrical supply board at the front of the house. At the time, there had been a number of over-voltage situations in our neighbourhood causing damage to electrical appliances inside the home. The electrician replaced all fuse blocks with circuit breakers, and except for the circuits supplying the refrigerator and stove, these were of the earth leakage detection type. A current differential (between active and neutral) of about 30 mA will cause the circuit breaker to drop out within milliseconds. He also installed on the supply board a large MOV device which clips voltage spikes. At the same time he discovered that sometime within the occupancy of a previous owner, the supply board earth has been disconnected from the ground stake! After I had paid his bill, I felt that I had done something tangible to improve the safety of myself and my family.

However, two recent incidents caused me again to take stock. My wife and I are almost empty nesters these days, so one end of the old family room inside the house has been converted to an electronic workshop so that I do not have to work in a cold garage. On returning home one day, we thought that we could smell smoke that had 'escaped' from electronic components. We searched high and low, but could find no evidence of overheating in any appliance or piece of equipment. My engineer daughter then gave me a much-deserved serve about ensuring that all equipment has been disconnected from the mains before you leave the house.

A short time later, Jim Linton VK3PC, got me involved in teaching courses to the new ACMA Foundation and Standard licence syllabi. One of the sections in each course concerns safety. The project described here arose out of the application of that training material to my own situation.

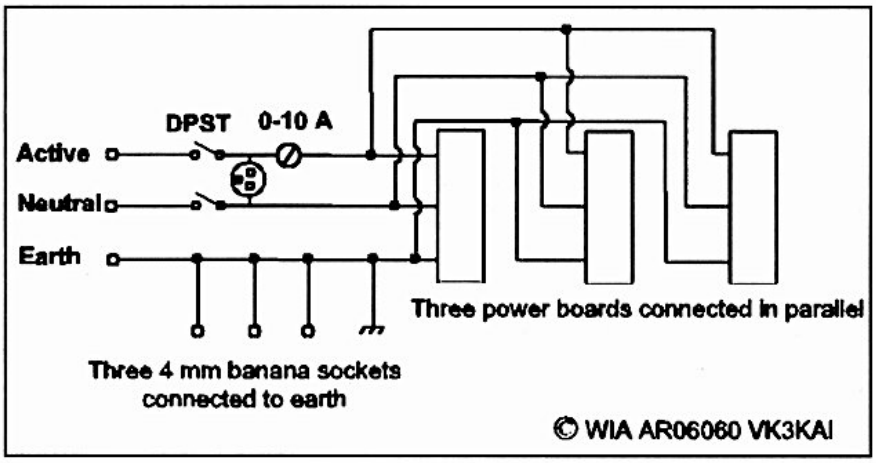


Fig. 1 – Circuit diagram

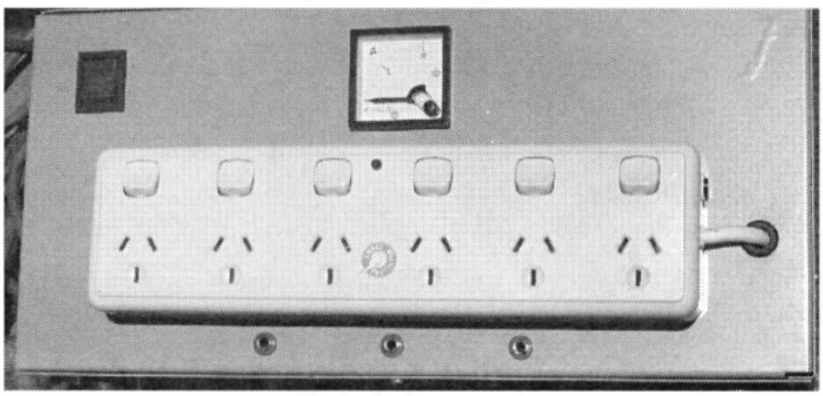


Photo 1 – Front panel

One switch to disconnect all equipment from the mains

The principle of this project is that there should be just one switch which cuts the power from all equipment in the workshop and which also provides a highly visible indication of its status. Non-amateur family members should be able to see at a glance whether the power is off, and if not, to be able to switch it off should the old man forget to do so before leaving the house. An AC ammeter to monitor total current drawn from the mains is considered very desirable.

Many of us use inexpensive power distribution boards, because of the many items of gear that we use when constructing or operating. Most of these do not draw high currents, but they all require a plug to be inserted into a general purpose outlet or distribution board socket. In my own case, I have a couple of soldering irons, a de-soldering gun, a couple of step-down transformers (see below) for powering equipment from the U.S.A. or Canada, an oscilloscope, a signal generator, a frequency counter, and so on. One distribution board is just not enough.

Need for organisation

The number of instruments and radios I have near my workbench made a tidier organisation mandatory. A trip to IKEA obtained shelving from their Ivar range which is ideal, as it is relatively inexpensive and very flexible in that the number of shelves and the spaces between them are readily adjustable. This shelving fits nicely on my workbench (which is

an old half-sized billiard table with a strong wooden cover) and the shelves are attached to wall studs to prevent them from tipping over. Another happy advantage is that there is enough of a gap between shelves on the same level in adjacent sections to allow mains power cords to be routed down from equipment to bench level, so that the cords are both physically protected and practically out of sight. When passing the mains plug between shelves on the same level, one shelf has to be lifted to allow the plug to go through the gap. Some help from a family member may be required.

Workbench power distribution system

The system makes use of a metal enclosure, three power distribution boards (two without individual outlet switches, the third board with switches), a 15 A double pole single throw rocker switch with inbuilt neon indicator, a 10 A moving iron AC ammeter, heat-shrink tubing, some spade type 'Faston' connectors, grommets and cable clamps. The circuit is shown in Figure 1.

The two boards without switches are attached to the back panel of the metal enclosure. The board with switches is attached to the front panel along with the on/off switch, the ammeter and three green 4 mm banana sockets each connected to mains earth. These sockets are to enable the antistatic workbench mat and wrist strap to be earthed. See Photos 1 and 2.

A general shot of the wiring is shown in Photo 3. Important features of the wiring include the insulation of the 'Faston' connectors with two layers of heat shrink tubing, all connectors being both crimped and soldered, and all wiring being supported mechanically by use of cable clamps and nylon cable ties. Power cables passing through metal panels are protected by grommets.

The distribution system thus has 12 outlet sockets on the back panel and six on the front. The back panel outlets are used for items of equipment which are generally permanently plugged in to the distribution system, each item having its own on-board switch and mains indicator lamp. Some nylon identification cable ties were obtained from Farnell (Order Code 433-998). These are like nylon cable ties with a rectangular identification tag. They were used to label the power cord, just behind its plug, for every item of equipment. The tags were written with a 'Sharpie' felt pen available from Officeworks. So now the workbench is generally free of a tangle of power cords.

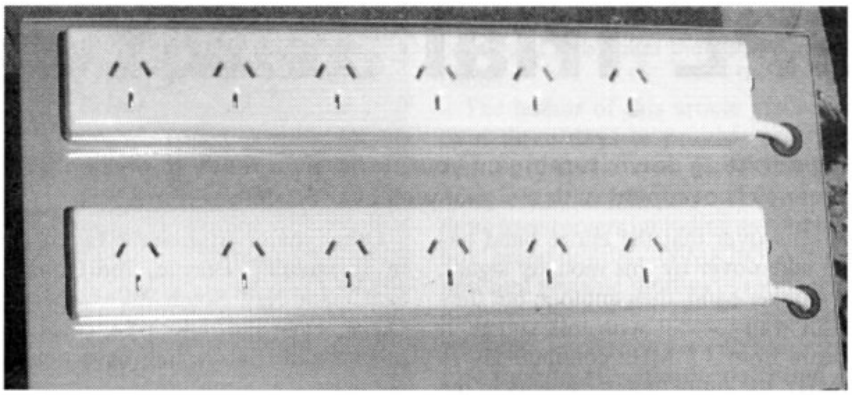


Photo 2 – Rear panel

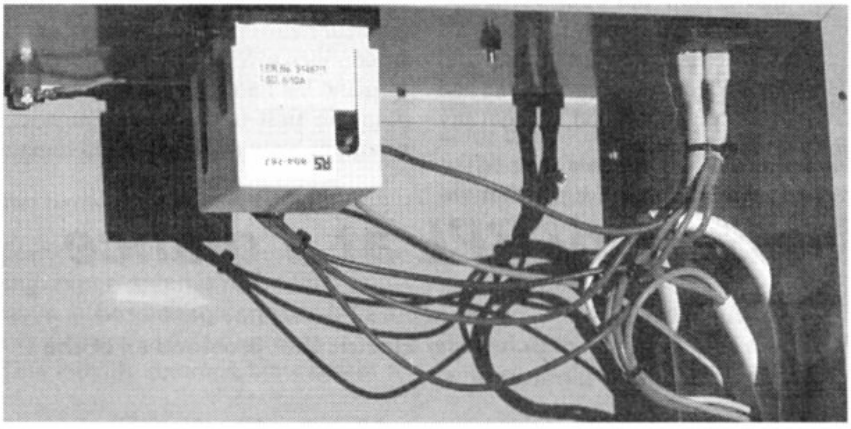


Photo 3 – Wiring

Step-down transformers

Each 230 V AC to 115 V AC step-down transformer was installed in a separate metal enclosure, and fitted with an appropriately rated fuse, and a DPST rocker mains switch with neon indicator. Several USA NEMA standard outlets (with earth) were fitted to the panel of the enclosure and wired in parallel. One side of the transformer secondary (the 115 V winding) was connected to the mains neutral.

Static electricity risks

The advisability of anti-static measures was amply demonstrated after the distribution system was put into operation. One nice fine Spring day, after working on restoring some old valve Heathkit equipment, I got off my draughtsman's chair (just wonderful for electronic work), and went to switch off the main switch. I inadvertently touched the metal panel and got quite a 'static belt', such as from getting out of a car on a hot day. Had I been working with static-sensitive gear, it could have been expensive. So make a habit of wearing an antistatic wrist strap connected to mains earth while working!

A note on enclosures

I used a metal enclosure that I happened to have on hand. However, a perfectly satisfactory substitute can be constructed using two similar sized pieces of aluminium sheet and some timber from which to make a rectangular frame. Screw the aluminium panels to the timber frame so that it is impossible for fingers to get into the space between the panels. Make sure that each panel is connected to mains earth.

The metal panels in this project are steel. Moving iron meters will work OK when mounted in a steel panel, but the accuracy of d'Arsonval (moving coil DC) meters is affected by steel surrounds; however non-metallic or aluminium panels are OK.

Conclusion

Electrical safety need not be an expensive exercise, but it does require a bit of analysis and organisation. You and your loved ones depend upon it.

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BPL Trial at Mt Beauty

Jim Linton VK3PC

Imagine sitting down, turning on your transceiver ready to make a pre-arranged 'sked' contact to find the frequency is occupied with a signal well over S9. Never mind.

Then discover that the entire band has been taken over by this monster signal. Try another band, then another, but they are all wall-to-wall with this signal. It appears from 3.5 MHz continuously to 30 MHz, the entire tuning capacity of the transceiver!

Well that is how Ian Paul VK3FIOP (now VK3LJJ) of Mt Beauty in north-east Victoria learnt that a new Australian trial of Broadband over Powerlines (BPL) had arrived in his neighbourhood, without any prior warning to him.

Other major trials have taken place in Tasmania – Burnie, and Hobart (2 trials), and New South Wales – Moruya, Queanbeyan and Newcastle – plus a few other small trials which have not been publicised.

Ian was hit with immediate disappointment. He thought that his amateur radio operating was now going to be confined to VHF or UHF, even forcing him and his family to move home.

In the first hours and days a lot of emotions were at play, but Ian remained composed and on track, studying for his Standard Licence assessment.

He telephoned ACMA, which let him know that the BPL operator was SP AusNet. A phone call to the company left their representative somewhat surprised that there was an amateur radio station in the cluster of eight streets targeted for the six month trial of BPL.

Four days after the BPL system was turned on into 'test mode', and after Ian complained, he received a letter from SP AusNet warning him "...there are potential emissions and possible risk of interference from the BPL systems. Our BPL systems will be using frequencies from 1 - 35 MHz."

The system at Mt Beauty is fed via a head-end linked to a fibre optic network and then distributed along the powerlines through full duplex repeaters.

BPL places carriers 1.1 kHz apart across the entire frequency spectrum used. The BPL signal uses blocks of spectrum a few MHz wide, a different block being used for uplink and downlink transmission.

In BPL-speak, these blocks of spectrum are called "modes". Repeaters use different "modes" in and out, and as the range of the signal is severely limited, re-use of the same block of frequencies is possible within a BPL network.

With a multiple repeater network, all of the HF spectrum could be used, possibly a reason why Ian is experiencing interference across the entire HF spectrum.

SP AusNet is Victoria's biggest energy transmission and distribution utility. The company had chosen Mt Beauty in January this year and installed BPL repeaters on every second power pole in an area around eight streets.

In media reports, SP AusNet said that Mt Beauty, being in a valley, was ideal because it gives the company a clear test site for interference because there is very little background noise.

From Ian's point of view, his QTH was a quiet RF location with an ambient noise level of S2-3 before the arrival of BPL. His S-meter is now on full scale deflection. Using a mobile station on three

Mt Beauty BPL at a glance

SP AusNet (majority owned by Singapore Power) has partnered with iLevo, a subsidiary of Schneider Electric that provided all of the components for the BPL network.

A total of 50 residents in the alpine town with a population of 2,300 (much greater during the snow season) are expected to be involved in a six month trial.

In return, they receive free and 'unlimited' broadband as part of the test on the viability of delivering internet and other broadband services over powerlines.

The package includes a dedicated e-mail address, an iLevo SmartBPL Modem including separate ports for Internet, USB (Universal Serial Bus), and VoIP (Voice over Internet Protocol). Encouragement is also provided for those who want to obtain video on demand via broadband.

Ian Paul VK3FIOP was invited by SP AusNet to join its BPL trial. Using the supplied SmartBPL modem, he was successful after several days of trying to connect.

The BPL system at Mt Beauty is being used in a 'last mile rural town scenario', where the BPL equipment in this trial area is linked to a high speed fibre optic network.

More than 20 pole-mounted repeaters have been installed in a cluster of eight residential streets, plus one to serve the Mt Beauty Neighborhood Centre – a community based training facility which includes internet access for residents.

Mt Beauty residents already have broadband and this test, apart from interference measurements, may be useful for a commercial viability comparison with the other non-BPL providers of broadband services.

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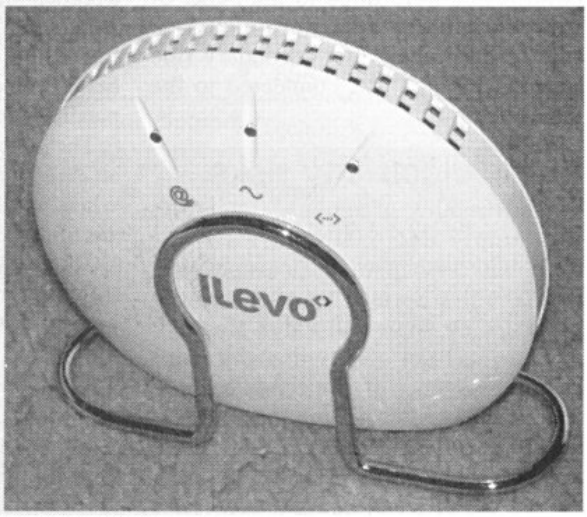
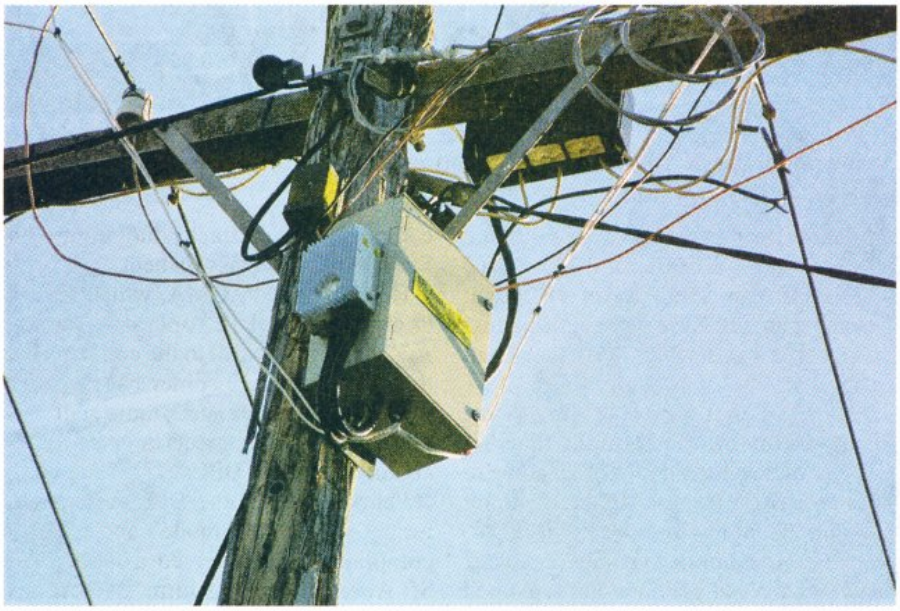


BPL modem.



The on-pole BPL repeater hardware.

days outside the BPL trial area showed ambient noise on the HF bands at Ian's pre-BPL levels.

He sought help from the WIA and Amateur Radio Victoria. SP AusNet appeared sympathetic to the interference being experienced and undertook to remove amateur frequency bands from the system and reduce its power.

This initially returned Ian's access to 80 m and 40 m, but the BPL interference continued to blanket the 10 m and 12 m bands.

The author of this article visited him over three days to provide assistance and verify the situation. Recordings were made of the interference as observed on three transceivers including an 'out of the box' brand new IC-706MKIIG. A battery powered portable shortwave receiver was used to observe the interference while walking.

A mobile HF station patrolled the streets where the BPL hardware had been installed and observed strong signals that continued to be received for about 400 metres outside the area. Radio contact between VK3PC mobile and VK3FIOP was not possible on the affected HF bands at the time.

The next step for Ian was to exercise his right as the holder of an apparatus licence and lodge a formal written complaint to ACMA about the substantial interference.

He has a firm ground for doing so. The interference was confirmed as BPL, its source known and substantial and harmful

impact to his licensed amateur service communications well documented.

A few days later Ian sent his formal complaint of substantial interference to ACMA, which received it on a Friday. On that same day, the BPL system returned to radiating emissions over the entire 3.5 MHz to 30 MHz spectrum and it appeared to him to be stronger than ever.

Ian VK3FIOP appears to be the first VK radio amateur to actually lodge a formal complaint of interference to ACMA. The amateur service, being a licensed radiocommunications service, is protected from substantial interference under sections of the Radiocommunications Act.

ACMA is the Authority responsible for administering the provisions of the Act and is required to investigate cases of interference when they are reported. It confirmed with Ian it would indeed investigate his complaint.

Without complaints, BPL operators may be able to claim that the technology is not cited in any formal way to have caused interference to radiocommunications.

It is vitally important that any radio amateur affected by BPL interference first verify that the interference is in fact caused by a BPL system, and secondly lodge an effective interference complaint with ACMA.

Without a valid and effective interference complaint lodged with ACMA, little can be done. The WIA provides a BPL interference advisory service to all radio amateurs (WIA members and non-members) at www.wia.org.au or if still unsure of what to do, contact your local radio club.

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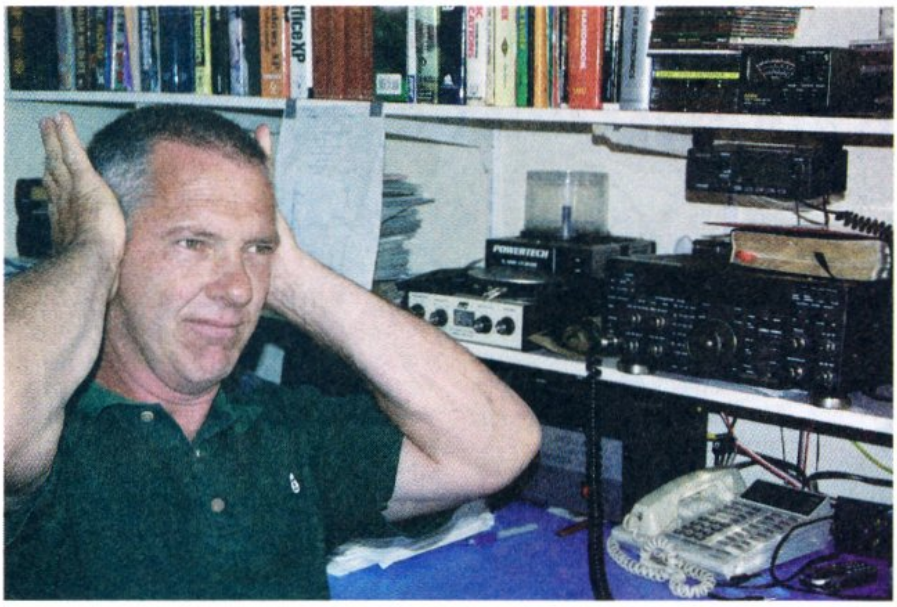


The sound of BPL interference is just too much for Ian Paul VK3FIOP (now VK3LJJ)

BPL History in Australia

Broadband powerline technology attracted the interest of some in the Australian electricity industry in 2004; both as a potential new revenue source, and as a tool to better manage power distribution networks.

When trials of BPL began, knowing the consequences of similar trials overseas and of the strong possibility of severe interference to HF radiocommunications from its use on the Australia power distribution system, the WIA expressed its concerns in a letter to the then Australian Communications Authority (ACA).

The regulator, by now ACMA, explained its position in these terms: "ACMA is intending to work with affected parties to develop arrangements that do not unnecessarily inhibit BPL deployments but preserve the utility of the radiocommunications spectrum."

As an interim measure, ACMA set up a BPL web portal which contained details of the trial guidelines for both Access and In-House BPL. The guidelines were, and still are, simply 'guidelines' and are not enforceable, although no doubt ACMA would take a dim view of anyone not acting in the 'spirit' of their 'guidelines'.

A rather novel approval to the regulation of BPL was suggested in 2004 by some members of the BPL lobby, although not publicly, that recreational and amateur users of HF radio be treated as 'less significant' users of spectrum, and not be afforded protection against interference.

In April 2005, ACMA issued a discussion paper on the management of interference from BPL applications that attracted more than 270 submissions. ACMA also embarked on a consultation process with the companies trialling BPL and organisations that are potentially affected by BPL deployments including the amateur community.

More recently ACMA said, "ACMA is currently examining the need or potential for regulatory action in respect of BPL services."

ACMA's BPL web portal explains that those conducting trials of BPL equipment where services are supplied to users are required to seek a 'trial certificate' from ACMA before commencing a trial. These trial certificates allow companies to trial new networks and services for a period of six months without the need to hold a carrier licence.

A trial certificate is not required if the company nominally conducting the trial also holds a telecommunications carrier licence. Carriers are not required to post details of their trial on the ACMA BPL web portal.

However ACMA has said, "Irrespective of whether the person conducting a trial is a carrier or not, all trials are subject to the ACMA regulations and laws concerning radiocommunications interference."

ACMA has taken some interference measurements during BPL trials and plans to publish an outcomes paper indicating its preferred arrangements for future deployment of BPL in Australia....

ar

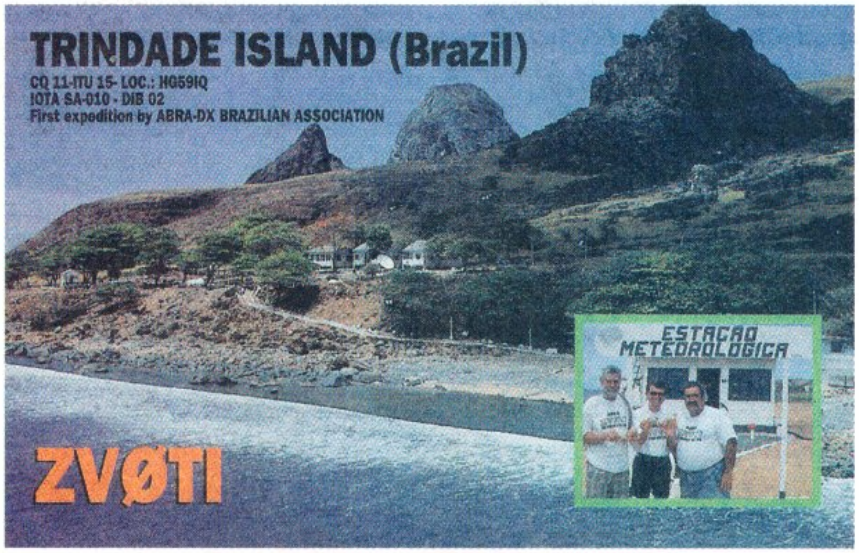
QSL cards from the WIA National QSL Collection

Ken Matchett VK3TL
Hon. Curator

ZV zero TI – Trindade

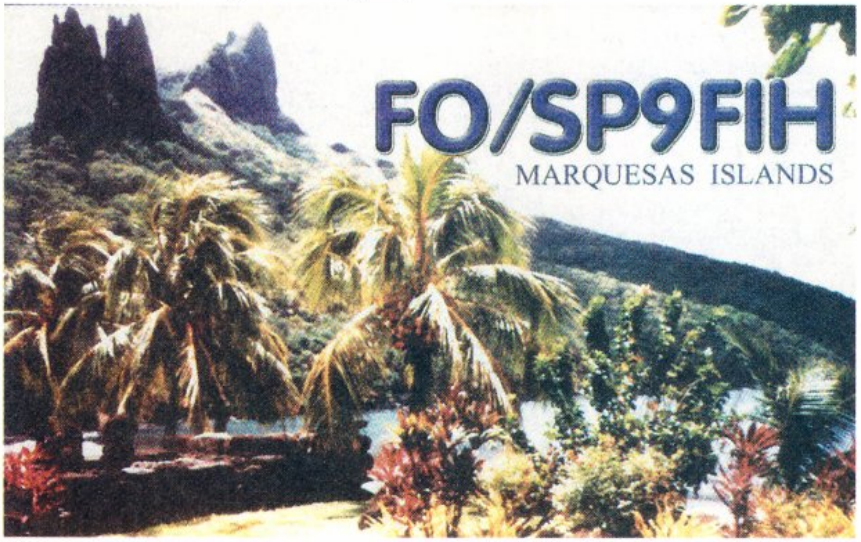
This was a special callsign allocated to the ABRA-DX Brazilian expedition to this quite rare DX country. (Listed equal first in the 'most wanted list' from VK DXers in the August 2006 edition of AR.) Often misspelt as *Trinidade*.

This country was first listed as Trindade and Martin Vaz Is. in 1958 with the prefix PY zero. They are two islands in the Southern Atlantic Ocean lying off the coast of Brazil, and are a possession of that country. Such QSLs are eagerly sought by IOTA chasers, this one being SA-010.



FO/SP9FIH – Marquesas Islands

This rare DX country was added to ARRL lists in 1998 with the prefix FO/M. It is a French Polynesian island in the South Pacific, north-east of Tahiti. QSLs are valid if dated after March 31, 1998. IOTA OC-027. On the reverse side of the QSL we read that there are big mountains, deep gorges, forests and waterfalls. Colourful flowers everywhere, but the expeditioner also points out that there is no shade during the hot noon sun and there are plenty of mosquitoes and large-size cockroaches. Nothing is perfect, even in the South Pacific!



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VHF-UHF Spring Field Day 2006

Greg Parkhurst VK1AI

This year's Spring VHF-UHF Field Day, held on the weekend of 11-12 November, provided the perfect opportunity to take to the hills in search of some DXing on the higher bands, and the propagation conditions didn't let us down.

The VK1BL station escaped the suburbs to the peak of Mt Coree in the Brindabella Ranges, about 25 kilometres north-west of Canberra. Mt Coree, one of the highest peaks in the Brindabellas, rises to about 1420 metres above sea level, and provides an excellent place for 2 metre and 70 cm operating. We also made some entertaining contacts on 6 metres with low powered equipment.

For 2 metres and 70 cm work, we used a Yaesu FT-847 (about 50 watts PEP) into a 15 element beam antenna for 70 cm and a 10 element beam for the 2 metre band. On the 6 metre band, we used a Kenwood TS-660 running about 10 watts PEP into a 4 element beam. For local 2 metre FM contacts, we also had a Yaesu FT-480R running into a quarter wave ground plane antenna.

We learned early on that you can expect high winds in high places. I lost count of the number of times my hat blew away, and we had to make sure our antennas were guyed strongly. While setting up our station, a particularly strong gust of wind caused a break in one of the guy ropes supporting the mast for the 2 metre and 70cm antennas. Having luckily avoided the falling mast, we then had to spend a few minutes straightening some of the antenna elements before we could raise the mast and start operating. The wind aside, we had a fun time atop the mountain. The trip to the top was worth it just for the fantastic view.

Activity levels on the Saturday afternoon were disappointing. Between roughly 1500 and 1600 local time, despite making numerous calls on all three bands, we made no contacts at all. This was not long after having worked into the Townsville area on 6 metres, and we began to wonder whether the amateur community had completely forgotten there was a contest happening.

Fortunately, the level of activity picked up in the late afternoon and early evening. A good number of Canberra stations gave us calls on all three bands, particularly 2 metres, and the time seemed to pass more quickly.

We experienced some spectacular and unusual propagation on all three bands late on Saturday evening. Of particular note were our contacts with VK2DAG (Gosford area) on all three bands, VK2KKZ (Forster area) on 2 metres and 70 cm, and VK2FZ (Sydney area) with strong signals on 2 metres and 70 cm. We also had a very pleasing contact with VK2IF (Kempsey area) on 2 metres on Sunday morning.

Until Sunday morning, we were wondering where all the VK3 operators were. We did hear VK3UHF for a few brief moments on Saturday afternoon, but it was not until early Sunday morning that the first VK3 callsigns entered our log. In future, we hope the VK3s will be looking for us earlier in the contest - they can be sure we'll be calling and listening for them!

The Summer VHF-UHF Field Day will be held on the weekend of 13-14 January 2007. Bushfires permitting, we'll be back on the mountain again, listening and calling on the bands. We're planning to add 23 cm to our current capability, as we heard about other operators making good contacts on this band during the Spring Field day.

Thanks to all stations who made it into our log. We'd be delighted to see you again in January. We'd also like to hear many more new callsigns, including operators from home stations. If the usual summer propagation conditions prevail, we're sure everyone will have a great time.

ar

Equipment review: The YAESU VX-6R/E and FT-60R/E hand held 144/430 MHz transceivers *continued*

photo of the two battery packs side by side. You will see that one is twice the size of the other. It just goes to show the difference in energy density between Nickel Metal Hydride and Lithium Ion technologies

FT-60R and the VX-6R conclusions

The performance of these transceivers on the amateur bands is for all purposes very much the same. If you really need the extra receive frequency coverage then the VX-6R might be your choice. My pick is the FT-60R which provides good performance at a lower price.

It has been a pleasure to have a play with both of these transceivers. Both are excellent performers and if Yaesu quality is as good as it was twenty years ago, they should still be going strong in 20 years time, just like my old FT-209RH.

The current retail price for the FT-60R is $369 and the VX-6R is $499. However, as always, shop around. Vertex Standard tells me that when the first shipment of the new FT-2000 HF transceivers arrives, they will make one available for AR to review. Watch this space.

ar

An "old-timer" with two of its modern successors

Spotlight on SWLing

Robin L. Harwood VK7RH

A year of SW downturns

Well another year is rapidly coming to a close. This year has seen a downturn in shortwave broadcasts, freeing up channels to reveal stations not normally observed. Stations such as Radio Finland will be departing shortwave on December 31st and we will miss the only news broadcast in Classical Latin, which was axed at the end of October. Radio Slovakia departed shortwave in July but reappeared at the commencement of the current broadcasting period.

Radio Slovakia International is currently broadcasting to Australia as follows:

0700 – 0730	Australia English	13715
	Australia English	15460
0730 – 0800	Australia Slovak	13715
	Australia Slovak	15460

December sees the centenary of the first wireless telephony broadcast by the Canadian experimenter, Professor Fessenden. This was on Christmas Eve 1906, from Brant Rock, near Cape Cod, Massachusetts. However documents have recently surfaced, stating that Fessenden was conducting wireless telephony test transmissions as early as 1905 and on the 12th of December 1906 staged a test broadcast, prior to the Christmas Eve program. These experiments continued into 1907. Interestingly the first mention of this broadcast did not appear until 1923 and certainly was not mentioned in the press in 1906.

Canadian Amateurs are permitted to use special prefixes to mark the 100th anniversary of Reginald Fessenden's first voice broadcast over radio. This authorisation will last for two months from December 1, 2006 until January 31, 2007. VE stations can use CG, VA can sign CF, VY stations can use CY, and VO stations can use the CH prefix. You can check the callsign database at http://www.callsign.ca/.

I received a recent query about a broadcasting station appearing within the 80 metre amateur allocation. I was surprised to observe it myself at 1200 UTC on 3578.9. It was in Indonesian with a relay of the RRI News from Jakarta. The day I first heard it coincided with the end of the Ramadan period and consulting the latest edition of Passport to World Band Radio 2007, there is a listing of a low powered district station at Masohi, wherever that is. It is listed as being irregular and not surprisingly, the signal does not appear daily and often has poor modulation. I assume that the sender was pushed into service for the end of the Ramadan period.

I recently came across a station on 11510 at around 1240, broadcasting in a western Asian language. I initially thought it came from one of the former Soviet republics but PWBR 2007 informs me that it is Radio Deewa or "Light". The language is Pashtoo, which is spoken in the almost inaccessible Pakistani-Afghan border regions. Naturally, the

continued on page 30

Ulverstone JOTA activities

Susan Brain VK7LUV

Alan VK7JAB and I attended JOTA at the Leven District Scout Camp of Paton Park (which is approximately 15 km from Ulverstone on the banks of the Leven River). The Scouts in attendance were from 1st Penguin, Turners Beach, 1st and 2nd Ulverstone and North Motton troops.

We were fortunate to have a computer room set up for JOTI, which was well used from the Friday evening right through to Sunday lunch time. Our first (and most exciting) JOTA QSO was to HL5NLQ Kang in South Korea on Friday evening. Our keenest Scout, Matthew (who has attended JOTA with us in the past) was in the radio shack as soon as he had set up camp and was delighted to speak with Kang for several minutes. HL5NLQ mentioned that there are not so many Jamboree stations in South Korea nowadays but he was pleased to hear that we are still active in this manner in VK.

We had fantastic QSOs with a number of other JOTA stations, including VK4SMK (Banksia Scout Group), VK1HS (Mt Rogers Scout Hall), VK5ARC (Hackham Scouts) and VK2SBB (at Bateman's Bay). Coincidentally, the OM who prepared the antennas for the station run by VK1HS visited us at Paton Park on the Sunday and was delighted that we had made contact with his home group. The conditions were great for our QSOs, which were all quite lengthy. One of the Scout leaders (Mike Norris) who repairs the wire antennas for us each year for 40 m and 80 m, joined with me in talking to the group about the new Foundation Licence and our Scouts were thrilled to speak with a couple of other Scouts who are now using their Foundation licences - Scott VK7FREK and also Nat VK3FNAT.

The other JOTA operators did a fantastic job and it was a really enjoyable and successful weekend.

33 Susan, VK7LUV

Photo 1. Mike Norris (Ulverstone Scout Leader) repairing the 40 m antenna

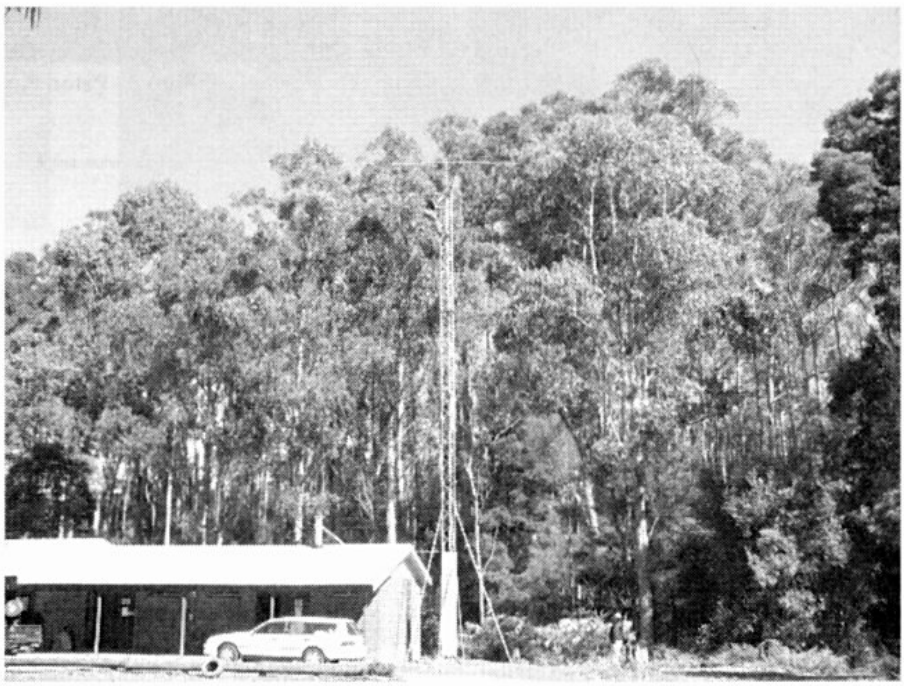


Photo 2. The antenna tower and radio shack at Paton Park Scout Camp

Ulverstone JOTA activities *continued*

Photo 3 - Scouts in the JOTI shack at Paton Park

Photo 4 - Scouts at Paton Park for JOTA 2006

Photo 5 - In the radio shack at Paton Park - Sandy, Kirralee, Natali, Susan VK7LUV, Matthew (with the mic) and Nicky

Photo 6 - Paton Park Scout Camp, NW Tasmania

ar

Spotlight on SWLing *continued*

programming is targeting the Taliban guerrillas that are holed up there in the mountains and caves. The station, which is backed by the NATO coalition, is easily heard as it comes from a 250 kW sender in Sri Lanka.

Korea has been in the news of late, following the recent entry of the northern part of the divided nation into the nuclear club. The UN quickly imposed economic sanctions on the Pyongyang regime in an effort to get them back to six-party talks to resolve the crisis. Pyongyang has been operating a string of clandestine stations for many decades and their external broadcasts are extremely boring. They can be heard in Korean on 6250 and 6398.9 in parallel. Seoul, on the other hand, has actually reduced their shortwave capacity, especially to Europe and North America and they stopped broadcasting to this region about a year ago. KBS World can be heard in English to Asia from 0800 to 0900 on 9570.

Japan also is seriously concerned about the situation on the Korean Peninsula and a station emerged to broadcast programming to highlight the plight of hundreds of Japanese nationals who were abducted to North Korea by intelligence agents in the sixties and seventies. They are using senders in the Russian Far East and also in Taiwan with programming in Japanese, Korean and English. In addition, the Japanese Government ordered NHK to highlight the plight of these abductees in their external service programming, NHK World (formerly Radio Japan). Tokyo currently has English broadcasts to Oceania at 0300 - 0400 on 21610, 0500 - 0700 and 1000 - 1100 on 21755, and from 2100 - 2200 on 6035 relayed from Singapore.

In conclusion, may I extend season's greetings to you and hope shortwave will continue throughout 2007.

73 from Robin L. Harwood VK7RH

ar

More JOTA 2006 activity from VK7

Roger Nichols VK7ARN
sarncon@bigpond.com

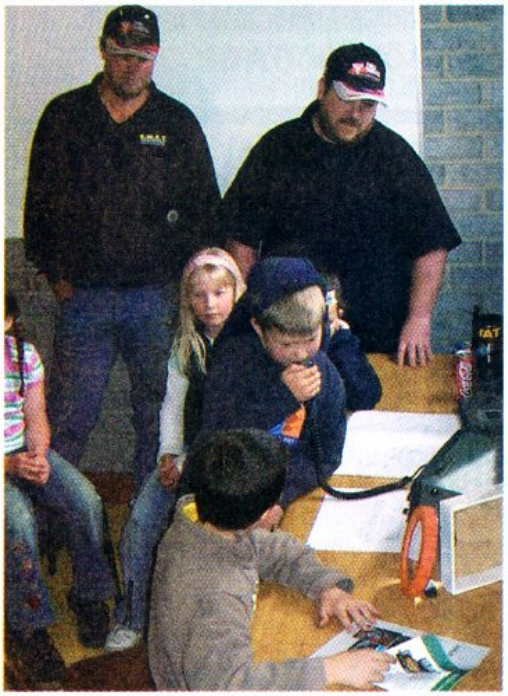
Members of the WICEN group of the Radio and Electronics Association of Southern Tasmania Inc. gathered at The Lea Scout Camp, south of Hobart, for the 49th JOTA.

The Wellington District Scouts were in camp over the weekend for JOTA and other activities. More WICEN members catered for the Blackman's Bay Scouts at their hall. There was to be a third group, Cygnet Scouts, working from a camp site on Vinces Hill at an altitude of 595 metres. However, forecast snowfalls to the 600 metre level led to a cancellation – not by WICEN though! The "high altitude" team split between the other groups and lessened the load.

JOTA contacts from The Lea were predominately on HF, with additional VHF and IRLP QSOs.

All photos were by VK7ZZ.

Scott VK7FREK oversees on-air activity.



Bruce VK7MBD and Scott VK7FREK on watch.

Three young Scouts enjoy on-air activity

Silent key

Robin Powell VK7FRVP

It is with sadness that we announce the passing of a North West Tasmanian Amateur Radio Interest Group club member, Robin Powell VK7FRVP.

Robin will possibly be remembered from years ago when he was well known in the CB arena. He spent several years in the USA and returned in recent times to his home state of Tasmania.

It wasn't long after his return that Robin acquired his Foundation Licence.

He is now at peace following a sustained period of illness.

Farewell Robin, from your CB and amateur mates.

Vale Robin VK7FRVP.

(Tony VK7AX)

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Saint Anthony's Scout Group Toowoomba VK4SAT: JOTA 2006

Matthew Weatherley VK4TMW
matthew@t130.aone.net.au

The Scout leaders of Saint Anthony's Scout Group, Toowoomba (VK4SAT) asked the Toowoomba and Downs Wireless Group (TADWG), based at Highfields, to assist them to participate in the 2006 Jamboree On The Air (JOTA).

Rex Testoni VK4ART provided a 16-metre telescopic antenna pole. On top was mounted a 2 m / 70 cm dual band 'J Pole', a club construction project.

The plans for this excellent 'J Pole', sent to us by Gavin VK7HGO from the Radio and Electronics Association of Southern Tasmania originally came from the Adelaide Hills Amateur Radio Society. It is easy and cheap to construct as a club project.

Hoisted up on a pulley was a G5RV, to give the group a good signal on HF.

The Blackman's Bay Scout Group VK7SBB at Kingston in VK7 were contacted by Matthew VK4TMW, using a Yaesu FT-1500M, via the Gold Coast repeater (IRLP Node 6702 VK4WIG on Mt. Tamborine), about 132 km direct over two mountain ranges.

The Stroud Scout Group, located about 65 km north-east of Newcastle in VK2, was contacted on 40 m by Ewen Cameron VK4HEC, using an Icom IC-7000. The Stroud operator was Brian VK2BI.

The limited time that the Scout group had on-air, together with the difficult propagation conditions prevailing, prevented overseas contacts; however, because of the enthusiasm generated amongst the twelve Scouts that took part, it is probable the TADWG will have a busy time in tutoring Scouts and leaders in the Foundation Licence in 2007.

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Some of the Saint Anthony's Scouts who participated.
Rear left is Ewen Cameron VK4HEC, the Scout wearing the cap is Peter Boyce, one of the group Leaders, on the microphone is Scout Tom Vonhoff, with Matthew Weatherley VK4TMW supervising.

Christine Taylor VK5CTY

Season's Greetings

As this is the December issue and there will not be another *Amateur Radio* till February, please accept Christmas and New Year Best Wishes from all in ALARA and to all in ALARA. The year seems to roll past so quickly that it is not till one looks at the date that one realises how close we are to Christmas.

Here in VK5 we have a special occasion to mark the beginning of the Festive Season, with the Christmas Pageant held on the first Saturday in November. This pageant has been running since 1932 and was started by just one man after he saw a pageant in New York. The main difference between our Christmas Pageant and almost all the other Christmas Pageants is that there is absolutely no advertising or any sponsored floats. All the floats are made in a workshop which runs all year, and the performers are (these days) all employees of the Credit Unions. In the past, all the performers were employees of the store built by the man who started it all, Edward Hayward of John Martins' Store.

Anyone who has ever performed as a clown, a space man or a maypole dancer (or any of the other characters), will never forget the experience. I certainly haven't!

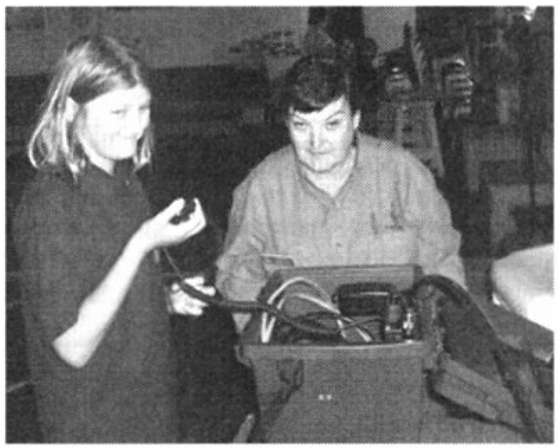
Officially, Father Christmas has arrived. I hope you all have bought all your Christmas presents or put your orders in to Father Christmas!! The latest Yaesu, Icom or Kenwood, maybe??

JOTA and ALARA YLs

No doubt there are many YLs who participated in JOTA across Australia but only a few of them have passed the details on. If you want your activities reported, you have to tell me, Christine VK5CTY, or Dot VK2DB.

In VK5, at the 3rd Goodwood Scout Hall, Jenny VK5FJAY and her OM Kevin VK5AKZ were operating. They had contacts on 2-metres, 70 cm, and a few on HF. Unfortunately, because of the low propagation level at the moment, the children could not always hear the HF stations, even though the adults, with ears more attuned to listening underneath the noise, could.

Several Scout groups visited the 3rd Goodwood hall, which was well set up for the event. There were charts with phonetic alphabets and activity sheets for the children to fill in, whether or not they actually spoke to anyone. Sometimes, of course, a station would be contacted but there would not be any children present, at one or the other end.



Jenny VK5FAJY with Celia at JOTA

If you have ever participated in JOTA, you will know that it is not always possible to have both a contact and children present simultaneously!! Frustrating, but quite normal.

However, from the 21 Scouting members at 3rd Goodwood on the day, Celia from 1st Darlington and Megan from 3rd Goodwood had good radio contacts. In particular, Celia (shown in this photo with Jenny) had a long conversation with the Commissioner for Scouts in S.A., who was at Scout Headquarters at Woodside, in the Adelaide Hills.

Stations in Darwin, Tasmania and Victoria were all contacted on HF and quite a number of VK5 groups, on 2-metres. Not marvellous, but there were no DX stations to be found.

Shirley VK5JSH and her OM Jim VK5JST helped to run a station at the Morphett Vale Scout hall, and Susan VK7LUV went to the same group that she has helped out before.

Kids and Radio

Here is Shirley's report:

On Saturday of the JOTA weekend I spent a few hours at the local Scout Hall (Hackham) with the South Coast Amateur Radio Club's station, helping young people to talk on the radio and hopefully become interested in amateur radio. Oh boy, did I have fun.

The group who were visiting during my shift were a youngish group (7 and 8 year olds - Sea Scouts from the Hallett Cove area). They understood the concept of talking into a microphone, but alas were a little confused as to where the return sound was coming from. I had to remind the odd one that the sound didn't come back out of the microphone (as in a mobile phone) as he held the mic up to his ear. We had fun talking to other Scouts on 2 metres around the Adelaide metropolitan area, finding out about each other's hobbies, sport, brother/sisters, pets and one young chap amazed my group by saying that he had visited America 3 times. That's when the natural enthusiasm for information came to the fore. "Where did you visit?", "Did you see snow (in winter)?" "How long was the plane trip?" This young chap was very popular with lots of my group. I know the 20-metre band in the other room was well patronised by the older kids, but didn't have a chance to listen in as I was so engrossed with "kids and radio". Thank you to the radio group at Glenelg from whom our group borrowed a very effective antenna on a trailer for the weekend. So, to any of you who haven't had the experience of Kids and Radio, give a try. You'll learn something worthwhile and have loads of fun.

73, Shirley VK5JSH

There were more stations this year using Echolink or IRLP and the specials satellite link set up for the Scouts was kept busy, by all reports. Very likely, as used to be commonly done some years ago, there were Scout halls with ATV stations, as an extra interest. As far as possible amateurs try to expose the Scouts to as many aspects of amateur radio as possible.

Thanks to all, OMs and YLs who participated.

continued next page

The Wireless Institute of Australia

ACN 004 920 745

Election of Directors

Call for Nominations

Pursuant to clause 14.1 (c) of the Constitution the WIA Board has determined that the election of directors shall be conducted by postal ballot.

Four directors appointed by clause 12.6 (b) of the Constitution retire at the conclusion of the next Annual General Meeting which will be held at a time and a place to be announced but not later than 31 May 2007, namely Michael Owen, Ewan McLeod, Robert Broomhead and Glen Dunstan. Each is eligible for re-election and Michael Owen, Ewan McLeod and Robert Broomhead have offered themselves for re-election to three of the four vacancies.

Nominations are called for from others also seeking election as a director of the WIA.

A director must be a voting member of the WIA and must hold an Australian amateur radio licence.

Any person wishing to nominate as a candidate for election as director of the WIA must deliver or cause to be delivered to the Returning Officer by not later than 31 January 2007:

- A statement signed by the candidate signifying his or her willingness to be a candidate for election as a director together with;
  - the full name, age, occupation and callsign of the candidate, and
  - such other biographical details or other information as the candidate wishes to accompany the ballot papers,

but in all not exceeding 250 words.

Delivery to the Returning Officer may be made by hand when the WIA national office is open at:

Suite 10, 229 Balaclava Road, Caulfield North, Victoria 3161

or by mail to:

PO Box 2175 Caulfield Junction, Victoria 3161.

Nominations received by facsimile or by electronic means cannot be accepted.

David A Wardlaw, VK3ADW
Returning Officer

ALARA *continued*

Another VK5 YL/ Foundation Licensees activity

Recently there was a Scout canoe marathon for which amateurs provided the communications. Providing this service and generally assisting there were five F call YLs. Is this a record I wonder, or just a sign of the times? Whatever it is, it is great to see.

The YL International Meet in Mumbai

This will have been run by the time you read this, and a report will appear in this column in the next few months but I wonder if anyone contacted the Special Event station?

The callsign was AM6MYL. The station was to run from 15th October to 29th October, before and during the MEET. I hope you did make contact and I remind you that if you did, you must not forget to send for the special QSL card to add to your collection.

Gwen VK3DYL attended the MEET where she represented both ALARA and WARO. Others reported to be going include Eime SM0UQW and Unni LA6RHA. It sounded as though it was going to be a very interesting MEET that would give some of the visitors a chance to see a part of the world they may not have seen before.

Advanced warning

There will be a special Anniversary Challenge next year to celebrate 40 years of CLARA. The aim is to work 40 YL amateurs between 1st January 2007 and 31st December 2007. The details will follow, but just in case you work a YL before the next AR comes out - make sure you keep an accurate record.

Perhaps you can make some of the YL contacts when you participate in the Midwinter Contest run by the Dutch YL Committee. This is on 13th and 14th January. All HF bands and all modes are allowed but no cross-band operations count. Every worked DX country works as a multiplier (each country to count only once even if it is contacted on more than one band or mode during the contest!). An interesting idea for a multiplier.

For extra points, there is a special club station to look for, operating on both days.

Logs to go to Chantal PA3GQG, QSL the international callbook or by Email to jckoekoek@ home.nl .

VK5 Luncheon on Friday 13th

This time, as it was Friday 13th, the theme of the luncheon was black cats. There were black cats with green eyes and black cats with blue eyes (for the Siamese cat lovers).

There were also small packets of black cats to eat. Interestingly no one refused them because they were flavoured with aniseed.

In VK5, the regular luncheons are held on the second Friday of the month. In VK6, there is a luncheon on the third Thursday of the month. Get in touch with your local representative. Everyone, including visitors, is welcome.

Merry Christmas and Happy New Year to everyone!

See you in February

ar

VK2

Tim Mills VK2ZTM.

Clubs

The Orana Region ARC, based at Dubbo in the Central West, was one group which recently gained a WIA grant. It will use the grant to help link the region's repeaters into a network extending from Parkes through to Tamworth and taking in Dubbo, Orange and Coonabarabran. Some of the network is already used to carry the morning VK2WI news session. The expansion will help coverage during the bottom of the present cycle.

Mid South Coast ARC deferred the normal November meeting until a combined Christmas luncheon on the first Saturday in December. Will you be on the North Coast in mid January? Keep in mind that the Coffs Harbour and District ARC has its 2007 Field Day on Sunday 21st January at the St. John Church Hall, McLean Street. Further details are available from Gary VK2ZKT, at radiosupply@bigpond.com or 02 6655 2990. The Hunter Radio Group in Newcastle, which provides a news bulletin on Monday night, will be in recess until the first Monday of February, the 5th. Its first meeting will be on Friday the 9th February. Then it will not be long until the Urunga Convention over Easter.

The Central Coast ARC, with its 2007 Field Day on Sunday 18th February, have an urgent message. It has received several inquiries regarding a rumour that clubs or individuals wishing to organise an exhibit at the event are required to pay a levy if they do not have Public Liability Insurance. The Club wishes to emphasise this rumour is totally incorrect. There is no levy imposed by the Central Coast Amateur Radio Club relating to public liability for Field Day exhibitors. "Check out its web site www.ccarc.org.au for updates as the Field Day approaches," advised Col VK2ZCO, Chair of the CCARC FD committee in a news item to VK2WI News last month.

WYONG
18 February, 2007

Morse

I had a note the other day from Ross VK2ER who co-ordinates the VK2BWI Slow Morse panel on behalf of AR-NSW. Ross said: "Operators serving on the VK2BWI Slow Morse panel have, over the years, routinely sent weekly Morse practice sessions for long periods of times, to assist prospective amateurs in preparing for their examinations.

Many VK2BWI operators have served selflessly and with little publicity in this role for 20 to 30 years. There is no doubt that countless amateurs owe their past examination success, in part, to listening to the nightly on-air VK2BWI Morse practice broadcasts. Although the numbers of listeners and panel operators have diminished in past years, it is fitting that we pay tribute to an outstanding operator, Keith Manning VK2NZM, from Adamstown, NSW.

Keith, originally from ZL, sent a weekly slow Morse session on Wednesday evenings, for over 20 years. So skilled was Keith that could exactly sustain an appropriate speed using only a hand key. A very popular operator, Keith's text was invariably well formed and he had many regular callbacks.

We regret to say that Keith suffered a stroke in mid July. He has recovered well, but cannot continue VK2BWI sessions. He has returned to New Zealand, where his family resides. On behalf of your many listeners and friends, thank you Keith, for your years of loyal service to the amateur radio service in Australia."

With Keith's departure, Ross was the only operator, which he does on Thursday. Recently Allan VK2ADB, down in the Snowy region, has taken up the Tuesday evening slot. You can find them on 3550 kHz at 8 pm local. In the past there were interstate operators and VK5WI took over after the VK2BWI session.

There is still the opportunity for anyone in south east Australia to take up a slot, you don't have to be in VK2. If you are interested get in touch with Ross, or advise the AR-NSW office. Don't forget the VK2WI auto transmission on 3699 kHz.

AR-NSW

On Saturday the 9th December, AR-NSW is scheduling an EGM to get the feeling on some amendments to the Constitution. Following the meeting they will have their Christmas party at the Ryde Eastwood Leagues Club. A recently planned club conference was not held. The AR-NSW office will close from 2pm Friday 15th December until 11am Tuesday 16th January.

The last T&T for the year was held on the last weekend in November. The first for 2007 will be late in January. The Dural-based events have become a good day out, with the T&T in the morning, a sausage sizzle by Brian VK2TOX for lunch and the Home Brew gathering in the afternoon. The evening Home Brew on the first Tuesday of the month continues to be held at McDonalds, North Parramatta.

Season's Greetings to all from Amateur Radio-New South Wales.

Exams

The AR-NSW Foundation and exams sessions for 2007 are planned to be held on the last weekend of the even months, the first will be over February 24 / 25. When the 1000th Foundation licensee was reached recently, VK2 had produced 277. Between AR-NSW and HADARC, they had 170 of them. There were a further 20 with the Blue Mountains ARC and 20 with Summerland ARC. There are apparently still some regions of VK2, like the South Coast, where there are no exam and course facilities.

VK2WI News and the AR-NSW web site carry details of courses and exams conducted by Hornsby and District ARC, Waverley ARS, Central Coast ARC, Westlakes ARC, Oxley Region ARC, The Karuah Valley Radio Group, Hunter Radio Group, Tamworth ARC and Summerland ARC which you can find at www.arnsw.org.au .

Email contact with AR-NSW via vk2wi@ozemail.com.au ; Postal: AR-NSW P.O. Box 9432, Harris Park, 2150.

News from...

VK2 *continued*

Telephone 02 9689 2417. FAX 02 9633 1525. Does your club or group conduct courses? Please advise the AR-NSW office.

VK2WI

The bottom of the sunspot cycle is finding holes in the HF morning coverage. What a pity we don't have a general 5 MHz band. There is a gap between where 80 m is absorbed and before the skip on 40 m comes to earth. We are most grateful to the relay stations that fill the gap via their local repeaters. The evening is being well served by the 80 metre transmitters. The 6 metre VK2RSY beacon, now on 50.289 MHz, made itself heard late October into ZL and northern VK4. First reports for some time.

VK2WI will make the last evening transmission for the year on Sunday the 17th December. The evening session will resume on Sunday 21st January. There will be morning only transmissions on December 24th and 31st and January 7th and 14th. Season's Greetings – 73 – Tim VK2ZTM.

Coffs Harbour Field Day
Sunday 21 January 0830-1530
St John's hall, McLean Street
Coffs Harbour

Westlakes Field Day

Frank VK2FJL

The well advertised and long awaited Westlakes Major Field Day, Sunday 12th November, is now but a memory. However for the vast majority who attended, well over 200, they will be very positive and pleasant memories.

The day started for the dedicated few at 7.30 am with volunteers assisting in the food preparation and assembling the trestles, while coming to terms with the myriad sections of the canopy. We will be better educated in future. Barricades were set up along with the sign-in table. All was ready well before the 9 am opening.

The boot sales were rolling in, along with the pantech belonging to the Lemon Tree Passage Coast Guard, closely followed by the local WICEN caravan. Both of these organisations were soon set up ready to display and explain their systems to all those interested. The WICEN State Management Committee had arranged to hold their yearly meeting at Westlakes in the Library and this was underway by 10 am.

The Sales tables, as well as the boot sales, were well underway by that time, with a steady stream of successful buyers trekking from the tables to their vehicles to deposit the booty before returning to the fray. Andrews Communications, as promised, arrived early and Lee soon had a host of the latest radios and accessories on display and was inundated by potential buyers.

Our resident Chef, Alex VK2ZM, had the barbie smoking by that time, while Dianne sat ready to issue the bread rolls to the long line of hungry shoppers. The air was soon filled with the aromas of sizzling steaks, sausages and fried onion.

As advertised, a couple of 2 metre pedestrian Fox Hunts had been planned and we thank Brian VK2BI for arranging and supplying the foxes as well as several sniffers. The response to this event was less than we would have liked, with only 5 taking part. However, those that did participate went at it with a vengeance. The final points went to Jessica VK2FJES, closely followed by Leyton VK2LI with Walter VK2FWAZ only a point behind.

The Badge prizes went to Col VK2YP and Richard VK2FRKO, while Allan VK2FLTP was successful in getting the closest to the number of Jelly Beans in the jar. The major Raffle, a signed picture of the Socceroos, went to VK2BAR, while GregVK2CW took home the monster meat tray. Westlakes wishes to thank our sponsors for their generous donation of these prizes.

At midday, with the food petering out, Col VK2YP announced the commencement of the famous Westlakes Auction. The auction found the tables overloaded with a variety of preloved articles, ranging from hotplates, television sets, computer monitors along with both HF, VHF and UHF transmitters and everything in between. Col VK2YP, ably assisted by penciller Greg VK2CW and money man Ali VK2AFZ, soon had a frenzy of bidders clamouring for, and being knocked down, unbelievable bargains. Col, who claims it was his first attempt at auctioneering, managed for the first time in many Field Days to clear the table of goodies, an effort which deserves a big thank you.

Following the auction, with the crowd heading for home, those same dedicated few tackled the task of clearing the leftovers from the bargain tables, dismantling the canopy and returning the trestles to the storage container in readiness for the next Westlakes ARC event.

As President I would like to thank all those who assisted in this exceptional day including those Amateurs and friends who came in their hundreds to make this yet another successful Westlakes Field Day.

Silent key

Terry Detlefsen VK2KTD

Several Westlakes members were among the family and friends who attended the cremation service at Ryhope for Terry VK2KTD Thursday 19th October 2006.

Terry passed a way suddenly at his home on Wednesday 11th October following a heart attack.

Radio was one of his real pleasures and anything associated with our hobby attracted Terry's interest. He took part in many of the clubs on air activities including RTTY and SSTV evenings, being a regular on the callbacks to our weekly broadcasts.

Westlakes was fortunate to have Terry as Secretary for several years; a position to which he gave his all, until ill health forced him to step down. This also meant that his attendance at the club also diminished.

Terry will be sadly missed.

Our sincere condolences to Michelle, Megan, Rebecca and Shayne.

Frank VK2FJL

Westlakes Field Day

Andrews Communications booth

The auction

Preparing the food

Ready for the foxhunt

The Coast Guard van

The WICEN van

News from...

VK5

Adelaide Hills Amateur Radio Society

Test your Gear

The October meeting of AHARS was a "test your gear" night. Barry VK5ZBQ and several others brought along test equipment so members could see just what the rigs they were using, or the projects they had built up, were actually doing.

Jim VK5JST gave an interesting talk called "RF for Dummies" describing some of the problems you can encounter. He illustrated it with SWR meters, including the wooden boxed model he has designed for our "F" callers to build for themselves.

There were at least two visitors to this meeting. Brian VK5PBL who was there, in particular, to meet Trevor VK5ATW, whom he had met on the phone but not in person. Trevor was one of the amateurs who ran a JOTA station for Brian at Kidman Park for the Seahaven Sea Scouts.

We also had Norman M0CRM, in Australia from Cumbria. When Norm was in VK5 several years ago, he presented AHARS with a plaque of the badge of the RSGB.

This time AHARS presented Norm with a copy of our Foundation Licence book. Norm had come to VK, in part, to encourage us to run Foundation courses, only to find that we are very active in that area.

Norm visited a number of clubs during his visit, and had seen the book before so, he was pleased to have a copy to show to the RSGB.

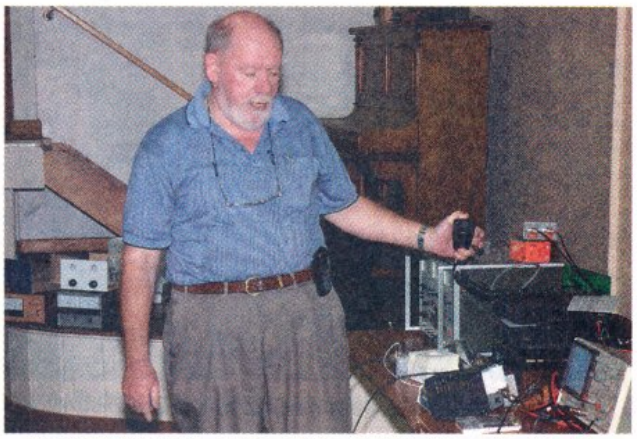
Norm also visited the Kidman Park JOTA station during the following weekend.

If you are visiting Adelaide next year, do come to one of our meetings: our speakers are many and varied and our members are friendly.

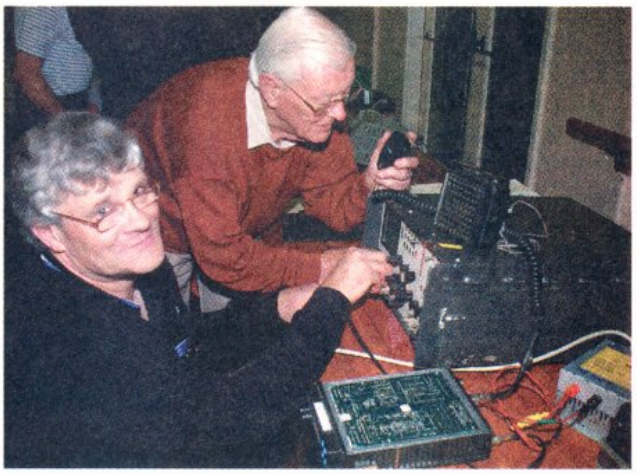
If you are interested in having a copy of any of the lectures we have run, most of them have been video taped.

For any one interested, we are prepared to copy these onto DVD for other smaller clubs who may not be able to attract the same speakers.

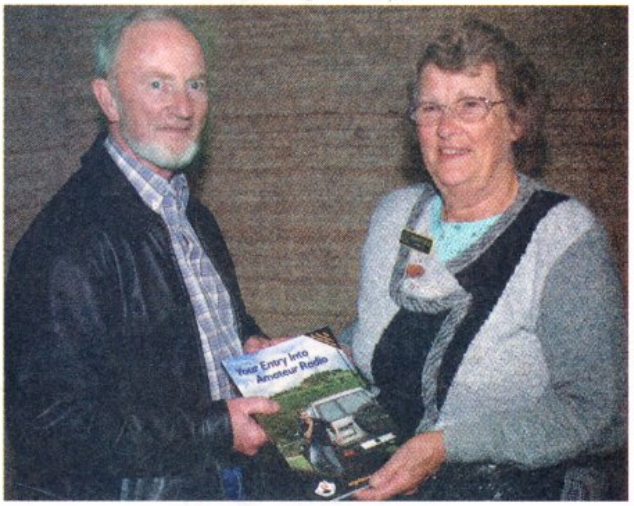
Barry VK5ZBQ with some of the test equipment he brought along



Jim VK5JST with some of the SWR bridges beside him



Phil VK5NN checking his radio's deviation with Greg VK5ZBD's test rig



Norm M0CRM being presented with the Foundation book by Christine VK5CTY

VK5

Old Timers' Luncheon In VK5

The Old Timers' Luncheon in VK5 is always held on the last Thursday of October. Over the years, the numbers attending have been falling to the extent that one begins to wonder whether it can continue. This year the tide turned. There were about 40 people present and everyone had an enjoyable time.

The news has been spread that the OTN is not restricted to those amateurs who have been licensed since the year dot. Instead, everyone who has held a licence for 25 years and/or is over 50 may join and attend the luncheons. Noticeably, more and more YLs are coming along, as they too find friends from other years to catch up with and generally because they enjoy themselves.

There was a theme to this year's luncheon. Members were asked to bring along old equipment to show to others. Several were of particular interest.

There was a 'spy set' in a suitcase. We all agreed that we would not have wished to carry the case for too long, as it really was heavy. But it really did look just like a 1940's suitcase.

There was a genuine crystal set with its piece of galena still in place. Some of the rigs brought along are still in use. "If it ain't broke, why mend (or replace) it?" Others were kept by historical radio buffs because they were old.

Jim VK5NB, the current President of the OTN in VK5, had made up a board with old QSL cards. Most of them were originally sent out from or to old VK5 amateurs – this prompted some memories!, but a few were there because of their intrinsic interest. One from the station G5RV of antenna fame was especially noted.

Darcy VK5RJ, licensed for 80 years

We had two amateurs present who could be called old timers in their own right. One, Darcy VK5RJ, has had a licence for 80 years. The other, Frank VK5LK, has had his for over 75 years. WOW!!

Both gentlemen are fit and well, and Frank is still teaching amateur radio and looking for students!

Darcy made a point of going over to speak to Jenny VK5FJAY when it was pointed out that she was the newest amateur in the room.

Some of the other interesting equipment on display

The Spy set in its suitcase

News from...

VK7

Justin Giles-Clark, VK7TW
Email: vk7tw@wia.org.au Regional Web Site: reast.asn.au

Record Tumbles: VK7 – ZL

In mid-October, there was a large high pressure system in the Tasman that was producing exceptional VHF propagation to New Zealand. Rex VK7MO worked Nick ZL1IU, just north of Auckland, on both 2 metres and 70 cm using the digital mode JT65b for new VK terrestrial digital records of 2431 km on both bands. Congratulations Rex.

Sewing Circle BBQ 2006

The VK7 Sewing Circle Net happens at 17:00 (local) on 3.589 MHz every day. Once a year the net participants, and many more, get together for the annual BBQ. This year it was in the REAST clubrooms on the Queen's Domain and saw over 50 people gather after the VK7 Regional News Broadcast for a day of amateur radio celebration and friendship. There was pre-loved equipment, fox hunts, homebrew competition, demonstrations of APRS, ATV, SSTV, repeaters, the unveiling of the VK7 Divisional Honour Roll and the Terry Wilson VK7HTW (SK) award to Ben VK7HAH. There was even a VK7 Advisory Committee meeting to finish the day off. Many eye-ball QSOs were established along with the renewal of many friendships. A great day was had by all!

Sewing Circle BBQ getting under way with those eyeball QSOs!

N W Tasmanian Amateur Radio Interest Group

Congratulations to Stuart VK7FSDB for passing his Advanced examination. This is the first of what is hoped to be many assessments conducted in the North West.

NWTARIG have been trialling the automatic broadcasting of world wide amateur news services on IRLP Nodes 6124 (VK7RMD) and 6616 (VK7RNW) nightly at 7.30 pm from Club Station VK7NW. Automatic Voice Relay System (AVRS) is also being trialled on APRS-enabled repeaters in the North and NW. AVRS will allow any APRS mobile to establish a voice link to any other APRS station anywhere on the planet by simply knowing their call sign.

Northern Tasmania Amateur Radio Club

October 11 was a mixed-BBQ night at the Mt Barrow Interpretation Centre. Forestry Interpretation Officer David Hamilton gave a most enlightening talk on the local eco-culture.

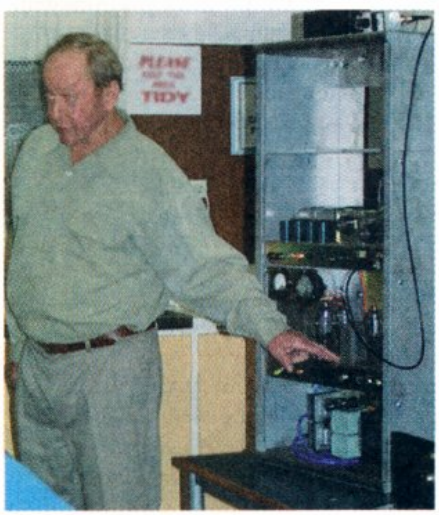
Thanks to Joe VK7JG and Brian VK7RR, the broadcast link on Barren Tier has been returned after correcting an overheating problem. Repeater VK7RIN is also operating to its full potential and repeater VK7RAB is now also back to full potential.

JOTA 2006 from Scout Island was another great success with 18 amateurs providing a great amateur radio experience for Scouts and Guides throughout the weekend.

Radio and Electronics Association of Southern Tasmania

The ATV experimenters' nights are attracting much interest and October 11 saw an on-air interview with the optical world record breaking duo of Chris Long VK3AML/7 and Mike Groth VK7MJ. This led to a trial of digital modes with the optical transceivers on the night of 15 October. Groups were on Mt Wellington and a hill behind Sorell, which is a distance of 29.8km. Starting with voice, we moved to SSTV and then to JT65A, both with some success. JOTA 2006 in the South saw two groups based at the Lea and Blackmans Bay, with 13 amateurs involved.

REAST's November presentation was given by Dave VK7DM and Ron VK7ZRO. Dave covered in detail the 160 m AM transmitter he has recently built and Ron covered the 1929 TRF amateur receiver he has recently restored. A demonstration between the two pieces of equipment completed the night. Thanks Dave & Ron.



Dave VK7DM demonstrating his 160 m AM Transmitter.

ar

VK3

Amateur Radio Victoria News

Jim Linton VK3PC
Website: www.amateurradio.com.au Email: arv@amateurradio.com.au

The year that was 2006

The year is coming to an end and it has been a highly successful one for Amateur Radio Victoria. A highlight was the AX3MCG and AX3GAMES special event activity for the Melbourne Commonwealth Games.

It showed what can be achieved with a team effort and enthusiasm. We are indebted to those who contributed to the success of this activity. More formal recognition of them can be expected at our annual general meeting in May 2007.

Another highlight was the International Lightship and Lighthouse Weekend from the Williamstown Lighthouse and Timeball Tower. It's hoped to be back there with VK3WI in August next year.

This time last year, the first Foundation Licence training courses and assessment sessions had just been held in Victoria. What a huge success it has been since that beginning and for the revival of amateur radio in Australia.

Returning to the field of education was Amateur Radio Victoria. The excitement surrounding the new three-tier licence structure resulted in the building of an effective education team with each member contributing to the ongoing success that has helped 100 candidates in a year. It has also provided hands-on experience for individual assessors who now run their own club-based licence assessment sessions.

Thank you to those radio amateurs who encouraged candidates to attend our training and assessments, and the even larger number who provided a welcome or, where appropriate, friendly guidance to our new radio amateurs.

The promotional campaign for amateur radio, mentioned in this column last month, has had further success. Continued efforts to achieve appropriate publicity for the hobby will continue in 2007. The results can be seen on the Media File page in the Member's Only section of our website.

The celebration of Amateur Radio Victoria's 95th birthday commenced on 30 November, the anniversary date for the foundation of the Amateur Wireless Society of Victoria in 1911. It will be a year-long celebration so expect more details in coming months.

Changing from highlights to look at a negative aspect of 2006, you can't but feel for the situation of Ian Paul VK3FIOP who had his amateur radio activity all but taken away by BPL pollution.

Various media reports throughout the year had suggested that there could be several BPL trials in Victoria, but they all appear to be more of the familiar hype used to try and support the flawed technology. None have gone ahead to date.

However not announced publicly was a decision made in January 2006 to trial BPL in Mt Beauty in north-east Victoria. We are now witnessing, for the first time in VK3, the adverse impact BPL has on HF radio.

Amateur Radio Victoria continues to assist Ian VK3FIOP, in consultation with Owen Duffy VK1OD who provided his knowledge of the issues surrounding BPL, and Phil Wait VK2DKN the WIA BPL Coordinator.

Membership renewal reminder

If your biennial membership anniversary was July-December 2006, you will have been sent a renewal notice for the 2006-08 membership period.

Thank you to those who have already renewed their membership of Victoria's state-wide amateur radio organisation. Welcome also to the new members who have joined during 2006 and are enjoying particularly the e-member services, judging by the email comments being received.

Membership costs $30 ($25 pensioner) for two years and application forms are available from our website or on request.

Website improvements continue

The Amateur Radio Victoria website has migrated to a new web server. Our Internet Project Development Officer, Gary Furr VK3KKJ, has done an outstanding job with a minimum of disruptions to the availability of the website facilities.

The new server enables an enhancement of membership services, including improved e-consultation or polling of members.

Two new sections have been added: 'BPL watch VK3' which has audio files and the 'Media File' that displays the results of the current publicity campaign. There's even a zany music video – check it out!

Season's Greetings

A reminder that the office at 40g Victory Boulevard, Ashburton, will close on Tuesday 19 December and reopen Tuesday 6 February. During the break, urgent matters will be given priority while office-bearers work on financial statements and the annual audit.

On behalf of the Amateur Radio Victoria Council – Barry Robinson VK3JBR, Ross Pittard VK3FCE, Peter Mill VK3APO, Keith Proctor VK3FT, Terry Murphy VK3UP and myself, compliments of the season to all and best wishes for a Happy New Year.

Eastern & Mountain District Radio Club

White Elephant Sale

One of Melbournes biggest and most popular hamfests, "The Eastern & Mountain District Radio Club White Elephant Sale" will be held on Sunday March 25th, 2007, in the Main Hall at The Great Ryrie Primary School, Great Ryrie St., Heathmont (Melway map 49 K11). Bookings for trading tables are now being taken; tables normally sell out early so we suggest you book your table quickly to avoid disappointment. Tables 6 foot long are available for $17 each and 8 foot tables for $20 each. To book yourself a table contact Colin Perger VK3FQL on 0414 879 682 or send an email to wes2007@emdrc.com.au

AMSAT

Bill Magnussen VK3JT

Mars on a Shoe-string

Peter Ellis VK1KEP has put forward a proposal for a southern hemisphere ground station to support the AMSAT-DL (AMSAT Germany) P5A spacecraft mission to Mars. To this end he presented a seminar "The Dish - Mars on a Shoestring" at the University of Canberra on 13 October 2006.

In the seminar, Peter discussed how the University of Canberra's 10 m and 4.5 m dish antennas and other resources could be used to provide a high capacity ground communications station to support space operations for spacecraft intended to support education and science, for relatively little cost.

As part of the presentation, he proposed a project time line based on the P5A spacecraft mission to Mars in 2009, and a range of undergraduate and graduate research topics to begin and continue the project, e.g. signal processing by computer, and data warehousing and dissemination. Peter also canvassed current and future Australian and international space research employment for graduates with experience in space research, not just from an Information Sciences and Engineering background, that the University of Canberra project would bring. He discussed the prospects for industry and community involvement, cooperation with other universities and organisations, and grant funding.

Peter explained how a range of AMSAT spacecraft has been supporting education in communication and spacecraft operation for over 30 years, with over 20 currently operational, and some 10 more slated for launch over the next 5 years, including P5A to Mars. See Peter's web site www.pcug.org.au/~prellis/p5a/ for links to other papers on P5A and this proposal.

I urge you to follow the progress of this project. If Peter's initiative is successful we could well have a facility here in Australia of the type that spawned the developments in the 1970/80s at Surrey University in England.

Peter recently completed a Masters degree in project management at UNSW-ADFA. His work included studies in facilities management, information systems and satellite communication.

Interesting development in multi-band dish feeds

To date most attempts at producing viable multi-band dish feeds for U/V/S bands have followed the "patch" principle. These work well and generally don't suffer too much from de-sensing, or can be easily tamed. The helix is probably the simplest form of dish feed antenna at low microwave frequencies and although many are in use, attempts to build viable multi-band versions have usually met with failure. Charlie G3WDG has designed a dual, concentric helix feed and microstrip filters which reportedly reduce the associated de-sensing to very low levels. Details are on his website:

http://www.g3wdg.free-online.co.uk/dual.htm

Even if you prefer the patch antenna or some other multi-band system, the notch filters described on the web site could be useful. The articles deal with practical construction and hint that the filters may soon be available in kit form. If you are putting together a station for the forthcoming high orbiters, you would do well to look at the information on this site.

Oscar-11 won't go away!

Despite many reports indicating the final demise of this old timer it seems it is back in operation.

It was first heard to reappear by Peter ZL3TC in October, after a silence since August 26. Clive G3CWV is still regularly reporting on the condition of UO-11 and his web site www.users.zetnet.co.uk/clivew/ can be relied on to contain the latest information.

The satellite is a mere shadow of its former self, of course, after more than two decades in space. Many of the ground-breaking features it once supported have succumbed to the ravages of space and time. Clive's web site lists the features still giving meaningful information. Indications are that it will be in more or less continuous daylight throughout the remainder of this year and into 2007.

The batteries will now not support operation during even short eclipse periods. The watchdog timer now operates on a 20 day cycle. The ON/OFF times have tended to be very consistent. The average of many observations shows this to be 20.7 days, i.e. 10.3 days ON

The AMSAT group in Australia

The National Co-ordinator of AMSAT-VK is Graham Ratcliff VK5AGR. Contact Graham if you wish to be placed on a mailing list for breaking news and net reminders. As a forum for members AMSAT-VK operates two monthly nets.

AMSAT-Australia Echolink Net

The "Echolink" net meets on the second Sunday of each month. Anyone with an interest in Amateur Radio Satellites is welcome to join the net. Graham VK5AGR acts as net controller. The net starts at 0500UTC during summer time periods and 0600UTC during winter standard time periods. Connect to the AMSAT conference server on Echolink a few minutes before these times.

AMSAT-Australia HF net

The HF net meets informally on the second Sunday of each month. In winter (end of March until the end of October) the net meets on 3.685 MHz at 1000 UTC . In summer (end of October until end of March) the net meets on 7.068 MHz at 0900 UTC. Start listening 15 minutes before these times.

All communication regarding AMSAT-Australia matters can be addressed to:

AMSAT-VK,
9 Homer Rd,
Clarence Park, SA. 5034

Graham's e-mail address is:
vk5agr@amsat.org

followed by 10.4 days OFF. However, poor solar attitude may result in a low 14 volt line supply, which could cause the beacon to switch OFF prematurely, and reset the watchdog timer cycle. When this occurs, the beacon is OFF for 20.7 days.

If satellite telemetry excites your imagination, here is a ready made project. Clive is appealing for meaningful, detailed information on UO-11's status and for telemetry recordings from amateurs around the world. He is compiling a compendium of what may be the last days of this beloved old timer. The behaviour of the watchdog timer is of particular interest in trying to predict the reappearance of the satellite after any period of inactivity.

Keeping up to date.

To say that the satellite scene is dynamic is an understatement and that is part of its attraction. No matter where your interest lies, or which group of satellites grabs you, keeping up to date is paramount.

The updating of Keplerian elements is a problem that's been with us since the earliest phase-1 birds and its importance is self evident.

Many newcomers may be perplexed when confronted with keeping up to date with latest developments, future plans, changes to operating schedules, periodic mode switching, progress of new projects etc. The internet has been a great boon to satellite operators and good, reliable information is available now at the press of a button – if you know which button to press! AMSAT-NA provides "mailing lists" as part of their free service to all satellite operators world wide. Currently, AMSAT-NA supports the following (free) mailing lists:

* AMSAT News Service (ANS)
* General satellite discussion (AMSAT-BB)
* Orbit data (KEPS)
* Manned space missions (SAREX)
* AMSAT Educational Liaison mailing list (AMSAT-EDU)
* AMSAT K-12 Educational Liaison mailing list (AMSAT-K12)

There are more but they are area specific in the USA. A daily digest version is available for each list. To subscribe, or for more list information, visit the following URL: http://www.amsat.org/amsat/listserv/menu.html The AMSAT-BB and ANS would be good starting points for newcomers.

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Beyond our shores

David A. Pilley VK2AYD

This month I am writing the column literally 'Beyond Our Shores' - off the coast of Aruba, with very limited Amateur Radio and computer facilities available. Consequently I'm not up to speed on recent happenings in the world of our wonderful hobby, so this month I'll just give a review of a few of the major radio societies around the world. Remembering that our own WIA is the oldest Amateur Radio Society in the world, formed in 1910 (time to plan for a big centennial celebration?).

In 1846, an Englishman named James Maxwell pioneered the theoretical verification of radio waves. 42 years later a German, Heinrich Hertz, demonstrated the presence of radio waves. However, the seed for Amateur Radio was not planted until the 1890's when Gugliemo Marconi began his experiments in wireless telegraphy. He was soon joined by hundreds of others who were enthusiastic about sending messages by wireless.

U.K.

The Radio Society of Great Britain (RSGB) followed closely on the heels of the WIA and was formed in 1913. With the changes in communication systems and Amateur Radio on the decline, the RSGB pioneered the Foundation Licence that reinvigorated Amateur Radio in Great Britain. This has been the blue print for many other Societies around the world, including our own. Their monthly journal has changed names over the years and today is known as "RadCom". Membership costs approx A$110 a year.

U.S.A.

The Amateur Radio Relay League (ARRL) was proposed by Hiram Percy Maxim in 1914. The purpose was to relay messages further using wireless instead of land line. By September 1914, there were some 237 relay stations appointed. The interest in Amateur Radio grew and by 1916 there were 6,000 Amateur Licences issued. The League's emphasis was on the word relay and the general public loved the idea of coast to coast free messages. About this time, the League started to produce a journal called "QST" which today is still one of the most widely read Amateur Radio magazines around the world. ARRL headquarters are at Hartford CT with a staff of 120 people serving approximately 150,000 members. Membership costs approximately A$82 a year.

Canada

The Radio Amateurs of Canada (RAC) is quite new in years being formed in 1993; however its history goes back to 1920 when the ARRL formed a Canadian Division which held up until 1979, when the Canadian Relay League (CRRL) was formed. Just prior to this in 1967, a new society called the Canadian Amateur Radio Federation (CARF) was formed. The CRRL and CARF were amalgamated in 1993. The journal of the RAC is "THE CANADIAN AMATEUR" which is successfully written in both English and French languages. International membership costs approximately A$70 a year.

Japan

Amateur Radio was somewhat slow arriving in Japan. Unlicensed hams started their experimenting around 1925. In 1926, 37 Radio Amateurs inaugurated The Japan Amateur Radio League and in 1927 ten private experimental radio telegraphy/telephony stations were licensed by the government. By the outbreak of WW II, there were about 300 stations on air; however when hostilities commenced in 1941, all equipment was impounded. It was 1952 before 30 stations were licensed and by 1994 Japan had nearly 1.4 million Radio Amateurs. The journal of JARL is the "JARL NEWS" which is published quarterly and was first issued in 1929.

New Zealand

The New Zealand Association of Radio Transmitters (NZART) got its start in 1926. It has been well supported by the Amateur Radio community and has a long history of innovation and development in the field of wireless. NZART publishes its journal "BREAK-IN" bi-monthly, as well as a comprehensive call-sign address book every year. Membership costs approximately A$85 a year (but if you want "Break In" sent by airmail, the cost is about A$98 a year).

Thanks to QST for most of the information. Back to normal next month!

ar

Gridsquare Standings at 3 November 2006

Guy VK2KU

144 MHz Terrestrial

VK2FLR	Mike	113
VK3NX	Charlie	104
VK2KU	Guy	102
VK3KAI	Peter	81
VK2ZAB	Gordon	78 SSB
VK2KU	Guy	69 SSB
VK3HZ	David	69
VK3CY	Des	68
VK3PY	Chas	68 SSB
VK2DVZ	Ross	63 SSB
VK2TK	John	62
VK3EK	Rob	62 SSB
VK3QM	David	56 SSB
VK2EI	Neil	54
VK7MO	Rex	54
VK3BJM	Barry	53 SSB
VK3TMP	Max	53
VK3BDL	Mike	51 SSB
VK3ZLS	Les	51 SSB
VK3KAI	Peter	48 SSB
VK2DXE	Alan	47
VK2KU	Guy	47 Digi
VK3WRE	Ralph	46 SSB
VK4TZL	Glenn	45
VK2DXE	Alan	43 SSB
VK3CAT	Tony	40
VK7MO	Rex	37 Digi
VK3KAI	Peter	36 Digi
VK4CDI	Phil	36
VK2TK	John	35 SSB
VK4KZR	Rod	35
VK3ZUX	Denis	33 SSB
VK6HK	Don	33
VK7MO	Rex	33 SSB
VK5UBC	Brian	32
VK3ZYC	Jim	31
VK2KRR	Leigh	28 FM
VK3CJK	Chris	28 SSB
VK4CDI	Phil	28 SSB
VK2KOL	Colin	27 SSB
VK2TK	John	27 Digi
VK2EAH	Andy	26
VK4DFE	Chris	26 SSB
VK5ACY	Bill	26 SSB
VK2TG	Bob	25 SSB
VK3BBB	Brian	25
VK1WJ	Waldis	24
ZL3TY	Bob	24
VK3DMW	Ken	23
VK3YB	Phil	23
VK4EME	Allan	23
VK3HV	George	21 SSB
VK3TLW	Mark	20 SSB
VK3VHF	Rhett	20 SSB
VK6KZ	Wally	20
VK1WJ	Waldis	18 Digi
VK3AL	Alan	18 SSB
VK3BG	Ed	17 SSB
VK4EME	Allan	16 Digi
VK6KZ/p	Wally	16
VK2EAH	Andy	15 SSB
VK3ZYC	Jim	14 SSB
VK3UDX	Geoff	13 SSB
VK2CZ	David	12
VK7ZSJ	Steve	12
VK2EAH	Andy	11 Digi
VK2EI	Neil	11 Digi
VK3VHF	Rhett	11 Digi
VK2DXE/p	Alan	10
VK3ANP	David	10
VK4CDI	Phil	10 Digi
VK4TJ	John	10 SSB
VK4EME	Allan	9 SSB
VK6DXI	Mirek	6
VK6HK	Don	6 Digi
VK1WJ	Waldis	5 SSB
VK2TWO	Andrew	5
VK3ZDR	David	5 SSB
VK1WJ	Waldis	3 CW
VK2DXE	Alan	3 Digi
VK3QM	David	1 Digi

144 MHz EME

VK2KU	Guy	219
ZL3TY	Bob	208
VK2KU	Guy	202 Digi
VK7MO	Rex	154 Digi
VK2FLR	Mike	120
VK3AXH	Ian	89 Digi
VK3CY	Des	70 CW
VK2AWD	Dave	52 Digi
VK2KU	Guy	39 CW
VK4CDI	Phil	34 Digi
VK2KRR	Leigh	30
VK3HZ	David	14
VK3NX	Charlie	5
VK3VHF	Rhett	4
VK4EME	Allan	4 Digi
VK2DVZ	Ross	2
VK2DXE	Alan	2
VK3AXH	Ian	2 CW
VK3AXH	Ian	1 SSB

432 MHz Terrestrial

VK2ZAB	Gordon	57 SSB
VK3PY	Chas	50 SSB
VK3NX	Charlie	48
VK3QM	David	47 SSB
VK3ZLS	Les	40 SSB
VK2KU	Guy	38
VK2KU	Guy	34 SSB
VK3EK	Rob	34 SSB
VK3HZ	David	34
VK2DVZ	Ross	32 SSB
VK3BJM	Barry	32 SSB
VK3CY	Des	32
VK3KAI	Peter	29
VK3KAI	Peter	28 SSB
VK3BDL	Mike	27 SSB
VK3WRE	Ralph	26 SSB
VK3TMP	Max	25
VK2TK	John	18
VK5UBC	Brian	18
VK7MO	Rex	18
VK2TK	John	17 SSB
VK3CAT	Tony	16
VK3ZUX	Denis	15 SSB
VK3BG	Ed	14 SSB
VK4KZR	Rod	14
VK3TLW	Mark	13 SSB
VK4TZL	Glenn	13
VK6KZ	Wally	13
VK2KRR	Leigh	11 FM
VK3UDX	Geoff	11 SSB
VK3AL	Alan	10 SSB
VK3ANP	David	10
VK3YB	Phil	10
VK4CDI	Phil	10
VK4CDI	Phil	10 SSB
VK2TG	Bob	9 SSB
VK3BBB	Brian	9
VK4DFE	Chris	9 SSB
VK3CJK	Chris	8 SSB
VK3VHF	Rhett	8 SSB
VK6KZ/p	Wally	8
VK2KOL	Colin	7 SSB
VK2FLR	Mike	6
VK6DXI	Mirek	6
VK7MO	Rex	6 Digi
VK2KU	Guy	5 Digi
VK3HV	George	5 SSB
VK4TJ	John	5 SSB
VK3KAI	Peter	4 Digi
VK3PY	Chas	4 Digi
VK3QM	David	4 Digi
VK3ZYC	Jim	4 SSB
VK4EME	Allan	4 SSB
VK1WJ	Waldis	3 SSB
VK2CZ	David	3
VK2TWO	Andrew	3
VK2DXE/p	Alan	2
VK3DMW	Ken	2
VK2TK	John	1 Digi
VK3VHF	Rhett	1 Digi
VK4CDI	Phil	1 Digi

432 MHz EME

VK4KAZ	Allan	14 CW
VK7MO	Rex	10
VK7MO	Rex	9 Digi
VK2SN	Sean	6 Digi
VK4CDI	Phil	6 Digi
VK3NX	Charlie	5
VK3HZ	David	4
VK2KRR	Leigh	1
VK3AXH	Ian	1 Digi

1296 MHz Terrestrial

VK3PY	Chas	37 SSB
VK3QM	David	37 SSB
VK3NX	Charlie	35
VK2ZAB	Gordon	29 SSB
VK3ZLS	Les	26 SSB
VK2KU	Guy	25
VK2KU	Guy	22 SSB
VK3EK	Rob	20 SSB
VK3KAI	Peter	20
VK3KAI	Peter	19 SSB
VK3KWA	John	19
VK2DVZ	Ross	17 SSB
VK3WRE	Ralph	16 SSB
VK3BDL	Mike	12 SSB
VK3BJM	Barry	12 SSB
VK3HZ	David	11
VK3TMP	Max	11
VK2TK	John	10 SSB
VK4KZR	Rod	10
VK7MO	Rex	10
VK3BG	Ed	8 SSB
VK3TLW	Mark	8 SSB
VK3AL	Alan	7 SSB
VK3UDX	Geoff	6 SSB
VK4TZL	Glenn	6
VK2CZ	David	5
VK3HV	George	5 SSB
VK3ZUX	Denis	5 SSB
VK3ZYC	Jim	5
VK6KZ/p	Wally	5
VK2KRR	Leigh	4
VK3BVP	Shane	4
VK3VHF	Rhett	4 SSB
VK3YB	Phil	4
VK3ZYC	Jim	4 SSB
VK4CDI	Phil	4
VK6KZ	Wally	4
VK2KU	Guy	3 Digi
VK3BBB	Brian	3
VK4CDI	Phil	3 SSB
VK6DXI	Mirek	3
VK2DXE/p	Alan	2
VK2FLR	Mike	2
VK3CJK	Chris	2 SSB
VK3CY	Des	2
VK3KAI	Peter	2 Digi
VK3QM	David	2 Digi
VK4TJ	John	2 SSB
VK3DMW	Ken	1
VK3ZYC	Jim	1 Digi
VK4CDI	Phil	1 Digi
VK5UBC	Brian	1
VK7MO	Rex	1 Digi

1296 MHz EME

VK7MO	Rex	18
VK7MO	Rex	16 Digi

2.4 GHz

VK3PY	Chas	14 SSB
VK3QM	David	14 SSB
VK3NX	Charlie	11
VK3WRE	Ralph	9 SSB
VK3KAI	Peter	7 SSB
VK3EK	Rob	5 SSB
VK3HV	George	4 SSB
VK3HZ	David	4
VK6KZ	Wally	4
VK3BJM	Barry	3 SSB
VK3KAI	Peter	2 Digi
VK3VHF	Rhett	2 SSB
VK4KZR	Rod	2
VK2DVZ	Ross	1 SSB
VK3BG	Ed	1 SSB
VK3TLW	Mark	1 SSB
VK3ZUX	Denis	1 SSB
VK4TZL	Glenn	1

3.4 GHz

VK3NX	Charlie	11
VK3QM	David	9 SSB
VK3KAI	Peter	6 SSB
VK3WRE	Ralph	6 SSB
VK3HV	George	4 SSB
VK6KZ	Wally	4
VK3EK	Rob	3 SSB

5.7 GHz Terrestrial

VK3NX	Charlie	12
VK3WRE	Ralph	9 SSB
VK3QM	David	8 SSB
VK3KAI	Peter	7 SSB
VK6KZ	Wally	4
VK3BJM	Barry	2 SSB
VK3EK	Rob	2
VK3HV	George	2 SSB
VK3KAI	Peter	2 Digi
VK6BHT	Neil	2 SSB
VK3ZUX	Denis	1 SSB

5.7 GHz EME

VK3NX	Charlie	7

10 GHz

VK3NX	Charlie	11
VK3QM	David	11 SSB
VK3KAI	Peter	9 SSB
VK3PY	Chas	9 SSB
VK6BHT	Neil	9 SSB
VK3WRE	Ralph	8 SSB
VK3EK	Rob	5 SSB
VK6KZ	Wally	5
VK3HV	George	4 SSB
VK3HZ	David	4
VK3TLW	Mark	3 SSB
VK3ZYC	Jim	3 SSB
VK5ACY	Bill	3 SSB
VK2EI	Neil	2 SSB
VK3BJM	Barry	2 SSB
VK3DMW	Ken	2
VK3ZUX	Denis	2 SSB
VK7MO	Rex	2
VK3BG	Ed	1 SSB
VK4KZR	Rod	1
VK4TZL	Glenn	1

24 GHz

VK6BHT	Neil	3 SSB
VK2EI	Neil	2 SSB
VK3NX	Charlie	2
VK6KZ	Wally	2

474 THz

VK3CJK	Chris	3
VK3HZ	David	2
VK7MO	Rex	2

Additions, updates and requests for the guidelines to Guy VK2KU, vk2ku@clearmail.com.au , or by mail (QTHR 2005).

The guidelines (and the latest League Table) are also available on the website of the NSW VHF Dx Group at www.vhfdx.radiocorner.net - click on Gridsquares.

Next update of this table will be early February 2007.

Stations who do not confirm their status for more than 12 months may be dropped from the table.

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VK7 Divisional Honour Roll unveiled

Justin Giles-Clark VK7TW.

On November 5, 2006, at the annual VK7 Sewing Circle BBQ, the completed VK7 Divisional Honour Roll was unveiled by the Chairperson of the WIA VK7 Advisory Committee, Phil Corby VK7ZAX. This Roll covers the main office holders from 16 November 1925 up until 8 December 2004, when the Division was unincorporated.

I include below a transcript of the speech that Phil made on the day.

I suppose that one of the final steps after the passing on of life is a memorial, and what I will humbly do today is unveil a memorial to the former Wireless Institute of Australia Tasmanian Division in the form of a record of its main officers. Although formed in 1923, it was incorporated in 1925 and its effective representation of Tasmanian amateurs started then. Before the formal unveiling, I would like to make a few remarks chiefly from my perspective as the last VK7 Federal Councillor.

The moves toward a National WIA had been gaining momentum a few years before 2004, but the dedication and energy of the late Chris Jones VK2ZDD and his supporters, the return of our highly respected President Michael Owen VK3KI to Federal Institute affairs, and the dedication of many amateurs including David Wardlaw VK3ADW, Ernest Hocking VK1LK and the late Peter Naish VK2BPN saw the decisions in Brisbane in April 2004 leading to our National WIA.

I must admit I had some reservations about the demise of our Division, as it had served VK7 amateurs well over its lifetime. However I need not have been concerned.

So saying, we must compliment most highly the Presidents, officers and founding members of the 3 radio clubs which have replaced the Branches. Each club has decided for itself the structure and rules appropriate to it, its meeting times and activities, and the growth in membership in 2 years is something for each to be proud of. Each has continued to maintain and improve the repeater systems within its zone, as well as successfully implementing education and assessment of new licensees with the introduction of the Foundation licence and revised licensing system.

After the downturn in the last decade or so of active licensees, I think we must have now turned up from the bottom of the curve, although we cannot afford to become complacent. So saying, the stewardship of amateur radio in Tasmania has passed into capable hands, and the many distinguished old-timers listed on this honour roll should feel most satisfied with their successors, although a few may have been reluctant to admit it.

The completed WIA VK7 Division Honour Roll hanging in the REAST Inc. clubrooms.

Old Timers in wild QSO Party!

Club Station makes 36 contacts

Headlines like these would probably not raise much interest if they appeared in a daily newspaper. Will they do so here? Well, we hope so – at least they bring some information about happenings in the AR hobby.

The cause of the above headlines was the QSO Party held on October 21, 2006, by the Radio Amateurs' Old Timers' Club Inc. (RAOTC) to mark the occasion of the Club's 30th birthday which occurred in March.

All active amateurs were invited to take part and many of you took that opportunity. On behalf of RAOTC, thank you most sincerely.

At the time of writing this note, not all details of contacts have been received; however, in Melbourne there was activity on VHF FM, although HF was the popular medium. 20 metres was noisy with a few VK6 contacts. 40 metres was "the one", with both CW and SSB in play. Club station VK3OTN worked 36 contacts.

The Club also gives a sincere thank you to Ron Fisher VK3OM, Drew Diamond VK3XU, Ron Cook VK3AFW, Derek McNiel VK3XY and Dennis Muldownie VK6KAD for operating Club Stations VK3OTN and VK6OTN.

A complete report on the QSO Party will appear in the RAOTC magazine "OTN" next March and on a weekly broadcast early in the New Year.

Who are the Old Timers anyway? A good question, as the popular conception is of someone of very senior years sitting over old boxes of equipment and wondering why today's young people don't do it that way any more.

A more accurate description of an "Old Timer" is one who is experienced in the radio field, irrespective of age or area of radio communications. The term is an old one which originally carried this latter meaning; therefore an old timer could be anyone who has worked consistently in a radio field for a number of years and has become very proficient. He/she need only be 18 years old if he started at 15 with a real "flair" for the hobby. In other words, age has nothing to do with it.

Certainly, our Club rules do say that one must be licensed, or qualified to hold a licence, for 25 years; but Associate Membership is open to those in a similar position after ten years. Perhaps this makes you eligible? If so, why not have a look at our web site-- raotc.org.au . You may be pleasantly surprised and certainly would be most welcome as a member.

Again thanks to all who supported us. Happy Christmas and 2007.

Ian Godsil VK3JS,
Secretary, RAOTC Inc.

Ian VK3JS operating VK3OTN in QSO Party

VK7 Honour Roll *continued*

So many of those listed have passed on, but I will mention a few. Phil Fysh VK7PF, who attended the first National Convention in Perth WA in 1925, and on his return convinced Tasmanian amateurs of the need for greater participation in Institute affairs, leading to incorporation of the Division in 1925. The first President, A. Harold Masters, architect, and lecturer in Electrical Engineering at Launceston Tech, is credited with being the first person in Tasmania to demonstrate communication by Wireless Telegraphy. "Pop" Medhurst VK7AH with Mr. Hallam successfully communicated with a visiting warship over distances of up to 60 miles in July 1901. Institute patrons have been "Pop" Medhurst and Len Crooks VK7BQ, described at the time of the Tasmanian Golden Jubilee in 1973 as the "Grand old man of radio".

Tom Allen VK7AL was our longest serving President and H. M. (Chummy) Moorhouse was secretary from 1933 to 1945. Outstanding service to the Division has been recognized by the award of life membership to those so recorded on the roll.

Although the terms of office of some as listed are short, all have contributed to the continuance of the Division as the representative organization for radio amateurs in Tasmania. We must not forget those many amateurs who have served as Councillors, and our ex-officio officers carrying out many essential tasks, often for many years, which had enabled the Division to support amateurs and their activities for so many years and provide services. We must not forget the ordinary members who may not have taken office, but by their membership and being there maintained the Division.

Thanks to Phil Corby VK7ZAX for sharing his speech. The Honour Roll can be viewed online at:
http://reast.asn.au/wiaVK7honourroll.php

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Contests

Phil Smeaton VK2BAA

Contest Calendar for December 2006 – February 2008

Dec.	2	RTTY Melee	
	9/10	ARRL 10 Metres Contest	(CW/SSB)
	16	OK DX RTTY Contest	
	26 (to 15 Jan 07)	Ross Hull Memorial Contest (VHF/UHF)	(CW, SSB, FM)
	30/31	'Original' QRP Contest	(CW)
Jan	6/7	ARRL RTTY Roundup	
	14/15	Summer VHF/UHF Field Day	(CW, SSB, FM)
	20/21	BARTG RTTY Sprint	
	27/28	REF Contest	(CW)
	27/28	UBA DX Contest	(SSB)
Feb	10	CQ/RJ WW RTTY WPX	
	17	ARRL INTERNATIONAL DX CONTEST	(CW)
	24/25	REF Contest	(SSB)
	24/25	UBA DX Contest	(CW)

Season's felicitations to one and all!

CQ all Contest Managers

Could I ask all VK contest managers to get in contact please, if you haven't already done so? It would be good for me to get up to speed and to enable a smooth exchange of information for inclusion in this column. My email address is vk2baa@wia.org.au . Thanks.

CW receiving prowess – Go Forth and Practice

As I mentioned last month, your humble scribe participated a while ago in a DXpedition to Norfolk Island as part of the VI9NI team. Operation on the island coincided with the CQWPX CW Contest and we were in much demand on the bands. Being on the receiving end of a sizeable pile-up is sometimes quite a shock to the system when a significant number of stations are calling you simultaneously. High quality receiver filtering and DSP within the rig no doubt helps greatly, but the ultimate recipient (the operator) is still required to decipher the remaining cacophony into intelligible information.

I've operated from the sticky end of a pile-up on a number of occasions previously, but the VI9NI experience showed me that I have a way to improve to enable me to maximise the success rate in picking-out a call and then completing the QSO with the highest level of accuracy and speed. So the question arises, how can one improve in a 'controllable' manner?

Of course, valuable experience can be gained on the bands under battle conditions during a contest but this is not such a controllable approach and can often result in an operator's perceived confidence becoming eroded instead of bolstered at this end of the personal learning curve. What's needed is a method of being able to control the number of stations calling so as to gradually build-up skills.

All is not lost however, as your PC can come to the rescue. Consider this scenario: a practice environment that is lifelike towards on-air contesting but also allows the user to add or remove elements of 'reality' according to their requirements.

Without a controllable Faraday cage of some description surrounding the shack and antennae, this is likely to be difficult to achieve when on the air. However, with seasonal festivities approaching, many more astute contesters have been dropping hints as to their requirements from Santa for a number of months. Requests for a higher sunspot count or some decent propagation on 10 m might be difficult for the old chap to deliver, but other items are be possible for Santa to empty his sack and provide - such as CW software packages and best of all – they're free!

By way of an example of such software, have a look at http://www.dxatlas.com/MorseRunner/ and download a copy of Morse Runner. Morse Runner is a highly adaptable piece of software that simulates 'real life' contest conditions but allows you to add or remove factors such as QRN and QRM.

Another equally splendid piece of software can be found at http://www.sk3bg.se/contest/softrufz.htm. RUFZ is also a CW contest simulation facility that additionally allows the user to compete 'off line' with others by submitting an entry of your results to the website 'Toplist'. The list allows the submission of photos of operators too, but this might not be to everyone's liking! However, take a look at the range of ages of submitted competitors – who says that ham radio contesting is an old bloke's game?! The beauty of this approach is that you can practice CW contesting without the 'usual' hardware of a radio or antennae, without an actual contest, whilst located on a plane, bus, aircraft (unless you're driving/flying it!), in fact wherever you're safely able to.

Another version of RUFZ for use with Windows XP, 2000, NT etc is available too, at http://www.rufzxp.net/.

If you download a copy of any of these packages and give it a go I'd be delighted to know how you got on. Maybe there are some other software packages that I'm not aware of? With my antenna restrictions, the software might have more stations to 'work' than I get on air at home!

Rules and Logs

It is said that familiarity breeds contempt. Many contests receive a periodic tweak to the rules whilst other contests go from year to year without any modifications at all. Most people prefer the latter approach if at all possible but, occasionally, one can run foul of not reading the rules properly.

It's an easy trap to not read the rules and digest them fully for a given contest that you've been participating in for quite a while. For instance, to put effort and time into a contest only to find that the emailed log submission gets rejected by the organisers 'robot' due to a seemingly minor formatting hiccup is annoying to say the least.

But worse still is to be docked a number of points or multipliers due to transgressing a rule that should've been heeded during the contest – exceeding the number of band changes permitted within a given period is often a cause of this type of error.

Contest organisers want you to enter their contest and submit a log. The adjudication process can often be lengthy and it must be as accurate as possible so as to be a meaningful exercise.

To try and speed matters up somewhat, adjudicators often stipulate a particular log format (Cabrillo for instance) for the submission – they're not trying to catch you out and they're not doing it to be awkward.

Adjudicators will often have a given process for efficiently and accurately sorting the vast amount of data received from contest entrants and we can help them in their voluntary task by ensuring that we send them what they want.

If the adjudicator has to modify our log to make it fit into their system, then additional time and effort is needed. Imagine trying to do this for every log received for the CQWW series of contests – possibly thousands of logs at a time – a colossal task.

Check for Errors

Simple errors often include not specifying the correct category of entry – are you entering the QRP, low power or high power section? Have you included all serial numbers, reports and other exchange information for each QSO? Using a PC is a good way to ensure that life is made easier for both the contester and the adjudicator, as data is entered into the software package in 'real time' during the contest. This can ease matters, but can cause trouble if the software has not been set up correctly prior to the contest!

Make sure that the correct software and possibly the latest version of the software is being used for the relevant contest that you'd like to enter – not all software caters for all contests as each software package often provides for a select range of contests only. Some of the latest versions of software can often contain a bug or two, so be careful!

A simple double check of the log prior to sending will avoid most hiccups. Many adjudicators may email a query to you if you have stated an email address, to allow you to make some alterations to your stated entry classification (if you used Cluster Spotting facilities but mistakenly claimed to be Single Operator as an example), but adjudicators are not obliged to do so and such activities consume quite an amount of time.

If, in the end, the effort required exceeds the time available, then just enter a check log to the adjudicator so that he can use the information for log checking if required, but this also gives an indication to the contest manager of the level of activity for that particular contest.

Some contest organisers have facilities that automatically 'vet' emailed logs as they are submitted, by examining contained data for compliance as some required information might be missing. These mechanisms are often called 'robots' but they consist of hardware/software that checks a given piece of received emailed data against a pre-ordained selection criteria for compliance.

Results NZ Memorial Contest 2006

From Mrs. Win. Gilbert ZL2GI

VK STATIONS

VK2LCD	Chris Meagher	SSB	1332 points	
	1st Phil. Armstrong Memorial Plaque/			1st VK
VK3JS	Ian Godsil	CW/SSB	576	2nd VK
VK5ZKT	Karsten Thole	SSB	472	3rd VK
VK4XY	George Down	CW	444	4th VK

Popular Contests

November will no doubt see CQWW CW as a very popular contest once again (at the time of writing this, the Oceania DX CW contest is tomorrow), with many VKs heard on the HF bands. Despite the sun-spot cycle causing hassles on the higher bands, DX should still be prevalent for the avid DXer to snare and get into the log.

Work pressures allowing, with a newly erected vertical quarterwave antenna for 80 m, I shall trawl through the band to see what is achievable with my QRP signal. I intend to spend some time before the contest running as many radials as I can find wire for beneath the antenna, to try and lower the angle of radiation as much as I can for DX.

For the Remembrance Day Contest, a higher angle would probably be better for VK/ZL working, so an antenna which worked well for a particular contest might not be the optimum antenna of choice for all contests. An inverted 'V' is probably best for the RD contest on 80 m, but I'm open to ideas / corrections! The All Asia contest and even Beru require targeted distant areas of the planet to be contacted, which might necessitate a review of antennae at your QTH to enable the best chance of getting the required stations into your log.

Power and Modes

From personal experience, QRP operation can be difficult at times, as managing to get that multiplier into the log often takes a little longer than QRO, as a 'little pistol' is often beneath the band noise floor for the big guns to hear. Tail-ending a QSO or judicious judgement on when to call are amongst the QRPer's weapons of choice.

As a general rule, if the station is about S5 or greater, I should stand a reasonable chance of being heard in the melee. This philosophy does not always work for me on 40 m however, when the mega-strong Europeans appear cloaked behind some sort of semi-permeable propagation membrane! Try as I might, I probably won't gain a response unless my signal is significantly above the European noise floor.

It doesn't stop me trying though, as I was most surprised to be on the receiving end of a small pile up on 40 m the other week during the CQWW RTTY contest.

It seems to me that a rising star amongst contesting is that of data modes, but particularly RTTY. The need for large lumps of clanking metallic teletype machines has long since past, but some amateurs still choose to get on the air with vintage equipment and they do exceptionally well in contests.

Personally, I don't have the real estate in the shack for such a mechanical beast and put the PC to good use instead, but whatever equipment you can assemble to get on the air and try a contest, it's worth having a go. Maybe I'll have a focus on data mode contesting in this column at a later date? Would anyone volunteer to be a sounding-block for me to bounce ideas off?

Commonwealth Contest

Did someone mention Beru?

Beru, otherwise known as the Commonwealth Contest, will be celebrating its 70th birthday next year and will take place on 10 and 11 March 2007 at the same time as the Cricket World Cup 2007. In keeping with cricketing traditions, it is proposed to organise a Commonwealth Team Contest along cricket team lines, to run in parallel with the normal Commonwealth Contest. This is intended as a 'fun' event.

Teams will be drawn from Australia, Canada, New Zealand, United Kingdom and the Rest of the Commonwealth. Sides will comprise eleven members or players, with one designated as Captain. Players are single operator amateur radio stations. Sides will be self-selected. The score of a side will be the sum of the eleven individual player's scores. Each player in the winning side will receive a plaque prize which can be retained as a memento. Yaesu (UK) has agreed to sponsor individual plaques for the winning team in the Commonwealth Team Contest for 2007. See www.beru.org.uk for further details.

I'm sure that VK can put in a good appearance in the contest and give 'em a good run for their money! If you are interested in participating then please get in touch. I'm not the designated point of contact for arranging the Team, but we'll need to start somewhere and I'll be delighted to forward all names to the relevant organiser.

Contributions Invited

If you have any contest related material for inclusion within the column, topics that you'd like covered or even some experiences and pictures you'd like to share, then please feel free to get in touch via vk2baa@wia.org.au . See you on the bands. 73 de Phil Smeaton VK2BAA

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Westlakes Cup Results

Last September Westlakes ARC, after having gained permission from the organisers of the defunct 'Wadda Cup', took over the organisation of that event, renaming it 'The Westlakes Cup'.

This was a first for Westlakes, as it had been many years since the club had involved itself in contests, let alone organising such a prestigious event. Any doubts that may have been in collective minds regarding the wisdom of this action have now been well and truly negated by the response to this contest.

The inaugural contest under the new name was held September 23rd with the deadline for log entries being midnight October 31. The winners and those who took part are listed below.

This year's event was restricted to VK entries only, but this rule may be adjusted in the future. The length of the contest was for one hour with a simplistic list of rules.

As this was a first for the club, Westlakes committee, under the direction of Contest Manager Paul VK2BPL, decided to encourage the newer Foundation Class to try their hand at contesting by making a separate section for the F troops, with appropriate awards being issued for both F calls and combined Standard /Advanced contestants.

Any contestant who indicated participation has already received, or will receive, recognition in the form of a certificate. First places in both sections have been awarded a commemorative 'Westlakes Cup', suitably engraved.

Congratulations to both the winners and place getters in both sections as well as those who helped make this, the first of what we hope will be many 'Westlakes Cups', such an outstanding success.

My personal thanks to Paul VK2BPL for his initiative.

Confirmed scores and placegetters

Advanced and Standard class

First:	VK7VH	Vince	37 points
Equal 2nd:	VK2AEA	Vlad	31 points
Equal 2nd:	VK3AAK	Michael	31 points
Third:	VK2VV	Graham	30 points

Foundation class

First:	VK2FJES	Jessica	25 points
Second:	VK3FIDX	Brian	22 points
Third:	VK2FRKO	Richard	19 points

Total logs received and station declarations

VK7VH	Vince	37	Cup Winner
VK2AEA	Vlad	31	Major Certificate Winner
VK3AAK	Michael	31	Major Certificate Winner
VK2VV	Graham	30	Major Certificate Winner
VK2LCD	Chris	29	
VK2ATZ/C	Dave	27	
VK2YP	Col	26	*
VK2LEE	Lee	25	
VK3MGZ	John	25	*
VK2FJES	Jessica	25	Cup Winner (Foundation)
VK3JS	Ian	24	
VK2ZEN	Michael	24	
VK3FIDX	Brian	22	Major Certificate Winner (F)
VK3HGA	Alan	19	
VK2FRKO	Richard	19	Major Cert. Winner (F)
VK2OJ	Alan	18	
VK3YXC	Ken	17	
VK3ECH	Rob	13	*
VK4ZJR	Ron	4	*
VK7AN	Al	4	*
VK3FORD/2	Matt	2	*

VK2BPL - Bonus station not eligible for award

* Indicates no log received but a declaration was made at contest end.

Contributed by Frank Lusa VK2FJL

Over to you

RD Contest thoughts

As I understand it the original concept behind the RD Contest was to Honour the fallen amateurs from the 2nd World War. I personally believe that while we have many thousands of Australians on Service in a Foreign Country, we should we be honouring any fallen "Australian Radio Amateurs Operators" from any overseas conflict, be it military or civil, as we have put our safe future their hands.

With the reduction in the numbers of the ex-service persons to remember our fallen mates it behoves those of us remaining and the new Amateur Radio Operators to carry on the memories of the operators that have paid the supreme sacrifice.

I would appreciate an email from you with your Brick Bats or Bouquets.

Peter Harding VK4OD
vk4od@wia.org.au

2006 Remembrance Day Contest

RD Contest Manager:- Peter Harding
Email:- vk4od@wia.org.au

I would like to thank the Directors of the Wireless Institute of Australia for accepting me as the 2006 RD Contest Manager.

As you may be aware, I attempted to finalise the 2005 results after taking up the Contest Manager role. However, the 2005 RD contest data available was incomplete, preventing the presentation of a complete picture of the results. This year, I have designed software to aid the compilation of scores for the RD contest. This will ensure that no data is lost.

To lessen the error factor, all electronic logs were also copied to 2 others. Having done this and confirmed the accuracy of the presented logs, I am now able to advise the Winning State, the final top scorer for each state and the overall highest winner.

In 2004, a total of 303 logs was processed with a total of 27,441 points. Based on the (what I believe to be incomplete) data for 2005, we had a total of 271 logs with a points total of 36,171. This year, I processed a total of 392 logs amounting to 38,639 points.

While we can see the number of logs received is up on the previous years, I am unable to compare the points, as 2005 had some bonus point factors that were not available in 2004 and 2006. However, this year we welcomed the inclusion of the newly granted Foundation Calls to the contest; this year 13 Foundation Operators submitted logs for consideration.

On assuming the role as the RD Contest Manager, I set about trying to simplify this year's rules and in doing so I set a specified return date **by which ALL logs must be received**. Unfortunately, some logs were posted well after the closing date, making it necessary to return these unopened with a polite note on the envelope, stating why they were returned.

The total logs from each state are shown in Table 1. Please note that the data for 2004 and 2005 were obtained from sources other than my own; hence I cannot vouch for their accuracy. However, all care has been taken in the compilation.

Over the past 3 contests, VK6 had top overall points (HF and VHF). The modification of the rules for the 2006 contest assured that no one was assisted by extra points for any contacts that were in excess of 1000 km. This assisted in reducing the scoring errors during the compilation period. I must comment that many operators **DID NOT** read the 2006 Rules, with some logs still recording invalid extra points for long distance contacts.

The overall top points individual winner this year is VK6WPR with 1216 points, VK7FN with 778 points, followed by VK7VG showing 685 points. The total of the points is a combination of HF and VHF. In the SWL category, the winner was Rex Craig from Western Australia with 674 points. In the overseas logs category, the winner was ZL1BYZ with 204 points.

The table below depicts each state by the highest points allocation:

The individual state winners are:

2006	Logs	Points
VK6	101	13,765
VK3	125	5244
VK2	38	4895
VK7	32	4511
VK4	49	4366
VK5/8	34	4478
SWL	3	832
VK1	7	684
O/seas	3	289

The high score individuals by state are:

VK1WX	with 362 Points
VK2WIA	with 612 Points
VK3BJA	with 492 Points
VK4ARI	with 620 Points
VK8BP	with 674 Points
VK6WPR	with 1216 Points
VK7FN	with 778 Points
SWL Category	R Craig with 674 Points
Overseas Stn	ZL1BYZ with 204 Points

As in the past, any scores for VK0 were aligned with VK7, and VK5 with VK8. This year's revised rules and introduction are available on the WIA website, in the contest area, along with a set of Cover and Log sheets.

Certificates to the winners will be issued as soon as they are printed and signed.

YEAR / AREA	2004 Logs	2004 Points	2005 Logs	2005 Points	2006 Logs	2006 Points
VK0	n/a	n/a	n/a	n/a	n/a	n/a
VK1	1	128	15	1198	7	684
VK2	37	2558	14	2478	38	4895
VK3	51	1885	98	8151	125	5244
VK4	51	3274	28	4859	49	4366
VK5/8	44	3487	51	7865	41	4478
VK6	83	13,311	34	15,840	101	13,765
VK7	33	2494	31	4445	32	4511
SWL	n/a	n/a	2	1291	3	832
Overseas	2	304	n/a	n/a	3	289

Table 1. Total logs by Zone

Individual Results for 2006 RD Contest

HF CW Single Op

Call Sign	Score
VK5ATU	254
VK3JS	224
VK2BUI	194
VK4XY	178
VK6AFW	116
VK3QB/8	102
VK3KS	56
VK2CTN	54
VK3TX	54
VK5AU	54
VK2EL	52
VK2RJ	46
VK1II	44
VK4RE	42
VK5GO	42
VK7RO	32
VK6UT	19
VK4ARS	17

HF Phone Multi Op

Call Sign	Score
VK7VG	675
VK5BP	674
VK2WIA	612
VK6WPR	378
VK3BML	370
VK3SOL	321
VK3BJA	252
VK2BOR	151
VK4VJG	115
VK4VV	82
VK3CNE	33

HF Open

Call Sign	Score
VK2BPL	418
VK3SAY	411
VK1WX	362
VK5ZKT	332
VK5UV	305
VK5ST	277
VK2TS	232
VK1YBQ	224
VK7GDS	201
VK5MFW	186
VK7CK	185
VK5FAKV	116
VK5WO	112
VK5UKK	108
VK3ADW	105
VK5RV	100
VK5DJ	73
VK5AW	61
VK2RD	60
VK4ACB	60
VK3KMB	56
VK5ZFW	55
VK5FPJW	50
VK5XY	46
VK5FAAA	40
VK7JAB	37
VK3FNBL	30
VK6ED	26
VK1EY	25
VK4BSG	20
VK5UE	16
VK6JP	16
VK6AR	13
VK5BWA	12
VK1GS	11
VK2XT	9
VK3KB	4

HF Phone Single Op

Call Sign	Score
VK7FN	778
VK2LCD	469
VK6VZ	414
VK4GFO	405
VK6LC	390
VK6WPR	378
VK2TZA	360
VK3YXC	354
VK2PBC	352
VK5ZKT	332
VK2GBF	320
VK4FABB	319
VK4FIDX	300
VK2NW	261
VK6SG	248
VK4GTM	243
VK7IF	242
VK3AVV	228
VK6WB	225
VK3FIFF	220
VK6DXA	205
VK2DF	203
VK6YS	195
VK2IT	188
VK6ADI	188
VK7KC	183
VK4ARI	176
VK2ZEN	160
VK3AGY	150
VK6UT	150
VK4TE	149
VK5HBG	147
VK5AJW	128
VK2ZCM	127
VK6ZN/4	127
VK4IZ	119
VK2LEE	114
VK4IFR	113
VK3SC	110
VK4KKN	100
VK4XYL	99
VK7GAG	97
VK4BAY	95
VK6KGD	95
VK4FLR	93
VK4GDX	92
VK3AFW	85
VK4VNE	83
VK3VT	79
VK4BTW	75
VK3FNJB	71
VK3AMW	70
VK4JRO	70
VK6MAC	70
VK6AAL	69
VK3SAT	67
VK2WL	63
VK4JK	63
VK7ZFX	60
VK2IRP	59
VK7ZJA	58
VK6CSW	56
VK6AM	56
VK5AIM	55
VK6TNT	55
VK5CO	54
VK6GV	52
VK6GF	52
VK4JM	50
VK5YX	50
VK2JAV	48
VK2CZ	45
VK2BAA	45
VK3BPN	45
VK4FLC	44
VK5TW	44
VK7LUV	42
VK4RC	41
VK2GLD	40
VK7RM	40
VK4YNF	37
VK3GAF	36
VK4SM	34
VK4DY	31
VK6AB	27
VK3BCZ	26
VK5RK	26
VK2EI	25
VK6NX	25
VK2IO	24
VK6CF	24
VK3XY	23
VK3ECG	22
VK3OW	21
VK5ATQ	21
VK7TAS	21
VK2AYL	20
VK4TFL	20
VK4EGT	20
VK4FFLS	19
VK3BYA	18
VK4SWE	18
VK6BDO	18
VK4OD	17
VK5UE	16
VK8HPB	16
VK5UE	16
VK4JPG	15
VK6RRF	15
VK5OF	14
VK3YAZ	13
VK6AR	13
VK2YW	12
VK3FCLL	12
VK4ACC	12
VK4VD	12
VK3FWF	11
VK7RF/1	11
VK5LZ	10
VK7NFC	10
VK6TTF	8
VK7ZAX	8
VK2JAM	7
VK2FRAY	7
VK2AAB	6
VK7ZMS	4
VK3XG	3
VK6BMW	2
VK6PMY	2
VK6PX	1
VK6SCS	1
VK6KAD	1

VHF Open

Call Sign	Score
VK6TWJ	179
VK2BO	70
VK3KB	31
VK6SMG	25

VHF Multi Op Phone

Call Sign	Score
VK6QL	251
VK6AD	251
VK6WK	250
VK6BY	250

VK6QD	249
VK3BJA	240
VK6WPR	230
VK3CNE	104
VK3SAT	61
VK3SOL	9
VK6BY	3
VK6WK	3
VK6AD	3
VK6QL	3
VK6QD	3

VHF Single Op Phone

Call Sign	Score
VK6BDO	556
VK6RRF	541
VK6USB	480
VK7ZBX	380
VK6YS	372
VK4ARI	326
VK6WIA	305
VK6KGZ	302
VK6FIVE	292
VK6TNT	290
VK6CSW	289
VK7DF	276
VK6WIE	275
VK6AGR	254
VK7KEF	252
VK6NX	230
VK6WPR	230
VK6AAL	230
VK6KW	218
VK6KW	218
VK7TW	210
VK6GFR	208
VK6ADI	189
VK6JP	184
VK6MAC	183
VK6SAA	183
VK6GU	183
VK6FJA	183
VK6MM	181
VK3VT	156
VK6KF	153
VK7GAG	146
VK3GAF	141
VK6SCS	134
VK6KAD	134
VK3JK	132
VK3ASU	126
VK4AML	120
VK4ARI	118
VK6ZLT	116
VK7RR	116
VK6AO	113
VK6FTIM	111
VK7QF	110
VK7ZFK	108
VK7GDS	107
VK5ZKK	99
VK6ZKK	99
VK6ZLZ	98
VK5AIM	86
VK4ZDX	83
VK6OTN	80
VK4YAR	79
VK5FAAA	72
VK5FAAA	72
VK6YF	68
VK3ZPF	62
VK3SAT	61
VK5APR	60
VK6CN	60
VK6PT	60
VK7RM	60
VK6PMY	58
VK3XA	57
VK6AR	57
VK4IFR	56
VK6KGD	56
VK6BMW	53
VK6ZCT	51
VK5ATQ	50
VK5XY	49
VK3ZAL	47
VK4ZA	47
VK6XC	47
VK6AB	44
VK4FLC	39
VK6OE	39
VK5KGB	37
VK3OW	35
VK3AVV	34
VK3XJU	32
VK3JWT	32
VK3JS	30
VK6TS	30
VK6WT	30
VK6GK	30
VK7ZMS	30
VK5SE	28
VK3FBAX	27
VK3FANF	25
VK5OF	24
VK2CZ	23
VK5PAV	22
VK3EWM	20
VK6LZ	20
VK3ACR	17
VK3AQ	17
VK3US	17
VK3ZUF	17
VK5AVQ	16
VK3BYY	13
VK6GWF	13
VK3AFW	12
VK1GS	11
VK5HBG	11
VK7VKV	11
VK7RF/1	11
VK5ALX	10
VK7VG	10
VK2JAM	8
VK4OD	8
VK1EY	7
VK4XYL	7
VK2NW	6
VK2GLD	5
VK3BJV	5
VK4ACC	5
VK6TTF	3
VK3ECG	2
VK6ADI	1
VK6GV	1

Receiving Section

Call Sign	Score
R Craig VK6	661
VK7XGW	150
M Martin VK6	21

Overseas Section

Call Sign	Score
ZL1BYZ	204
ZL4JB	60
ZL2ALJ	25

Summary of State by State for Logs and Points

	VK0	VK1	VK2	VK3	VK4	VK5/8	VK6	VK7	SWL	O/S	
VHF Logs	0	2	5	29	11	14	65	14	0	0	140
VHF Points	0	18	112	1562	888	636	10035	1827	0	0	15078
HF Logs	0	5	33	96	38	27	36	18	3	3	259
HF Points	0	666	4783	3682	3478	3842	3730	2684	832	289	23986
Total Logs	**0**	**7**	**38**	**125**	**49**	**34**	**101**	**32**	**3**	**3**	**392**
Total Points	**0**	**684**	**4895**	**5244**	**4366**	**4478**	**13765**	**4511**	**832**	**289**	**39064**

Leading State by "Points and Logs"

State	VK6	VK3	VK2	VK7	VK4	VK5/8	SWL	VK1	O/S	VK0	Totals
Total Logs	**101**	**125**	**38**	**32**	**49**	**34**	**3**	**7**	**3**	**0**	**392**
Total Points	**13765**	**5244**	**4895**	**4511**	**4366**	**4478**	**832**	**684**	**289**	**0**	**39064**

WYONG is Sunday February 18, 2007

Summer VHF-UHF Field Day 2007

John Martin VK3KWA, contest manager

Dates

Saturday and Sunday January 13 and 14, 2007.

Duration in all call areas other than VK6: 0100 UTC Saturday to 0100 UTC Sunday.

Duration in VK6 only: 0400 UTC Saturday to 0400 UTC Sunday.

Sections

A: Portable station, single operator, 24 hours.

B: Portable station, single operator, 8 hours.

C: Portable station, multiple operator, 24 hours.

D: Portable station, multiple operator, 8 hours.

E: Home station, 24 hours.

Single operator stations may enter both Section A and Section B. If the winner of Section A has also entered Section B, his log will be excluded from Section B. The same applies to the winner of Section C if the station has also entered Section D.

General Rules

A station is portable only if all of its equipment is transported to a place which is not the normal location of any amateur station. Operation may be from any location, and stations may change locations during the Field Day. You may work stations within your own locator square. Repeater, satellite and cross-band contacts are not permitted.

One callsign per station. If two operators set up a joint station with shared equipment, they may choose to enter Section A or B as separate stations under their own callsigns, or Section C or D under a single callsign. If they enter Section A or B, they may not claim contacts with each other. Stations with more than two operators must enter Section C or D. Operators of stations in Section C or D may not make contest exchanges using callsigns other than the club or group callsign.

No contest operation is allowed below 50.150 MHz. Recognised DX calling frequencies must not be used for any contest activity. Suggested procedure is to call on .150 on each band, and QSY up if necessary.

Contest Exchange

RS (or RST) reports, a serial number, and your four digit Maidenhead locator.

Repeat Contacts

Stations may be worked again on each band after three hours. If the station has moved to a new location in a different locator square, repeat contacts may be made immediately. If the station moves back into the previous locator square, the three hour limit still applies to stations worked from that square.

Scoring

For each band, score 10 points for each locator square in which your station operates, plus 10 points for each locator square worked, plus 1 point per contact. Multiply the total by the band multiplier as follows:

6 m	2 m	70 cm	23 cm	Higher
x 1	x 3	x 5	x 8	x 10

Then total the scores for all bands.

Logs

Logs should cover the entire operating period and include the following for each contact: UTC time, frequency, station worked, serial numbers and locator numbers exchanged, points claimed.

Cover Sheet

The cover sheet should contain the names and callsigns of all operators; postal address; station location and Maidenhead locator; the section(s) entered; the scoring table; and a signed declaration that the contest manager's decision will be accepted as final.

Please use the following format for your scoring table. In this example the operator has operated from one locator and worked four locators on each band:

Band	Locators Activated (10 points each)	+	Locators Worked (10 points each)	+	QSOs (1 point each)	x	Multiplier	=	Band Total
6 m	10	+	40	+	40	x	1	=	90
2 m	10	+	40	+	30	x	3	=	240
70 cm	10	+	40	+	20	x	5	=	350
							Overall Total = 680		

A sample cover sheet and scoring table has been included in the postings on the WIA web site. Copies can also be obtained from the e-mail address given below.

Entries

Paper logs may be posted to the Manager, VHF-UHF Field Day, 3 Vernal Avenue, Mitcham, Vic 3132. Electronic logs can be e-mailed to vhf-contests@wia.org.au. The following log formats are acceptable: ASCII text, MS Office RTF, DOC, XLS or MDB (Format - Office 2000 or earlier).

Logs are requested by Monday, January 29, 2007. Early logs would be appreciated.

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The Kenwood TS-820S and the Kenwood TS-830S HF transceivers

Ron Fisher VK3OM

TS-820S

This month I want to look at an old favourite, and then the one that took over from it. The TS-820 was the first Japanese transceiver that I ever owned. Prior to that, I had used a few American transceivers, including a National NCX-3, which I still have, and later a Heathkit SB-101. This one has long gone, but I do have the later SB-102 in my collection.

The TS-820 appeared on the Australian market in late 1976. A Dick Smith advertisement in Amateur Radio for September of that year listed them at $800, with the digital display an extra $154. An external VFO was $137. Not cheap. That would equate to well over $3,000 in today's money.

Even after all these years, I consider the TS-820S one of the best transceivers ever built. Certainly, after the American ones listed above, it was a revelation. Most 820s you will find around on the second-hand market these days have a digital frequency readout included but, as noted above, many of the early examples sold did not have this included. Watch out for this if you are considering buying a TS-820. Early production models were labeled TS-820; however, later, when the digital display was included, this was changed to TS-820S. Also, the early models did not have the spinner on the tuning control.

Both transmit and receive audio quality were above average, even by today's standards. I used mine with a Shure 444 microphone and have always received top quality audio reports. Kenwood used negative RF feedback on the final stage that produced IMD of around -40 dB, somewhat better than many current solid-state transceivers.

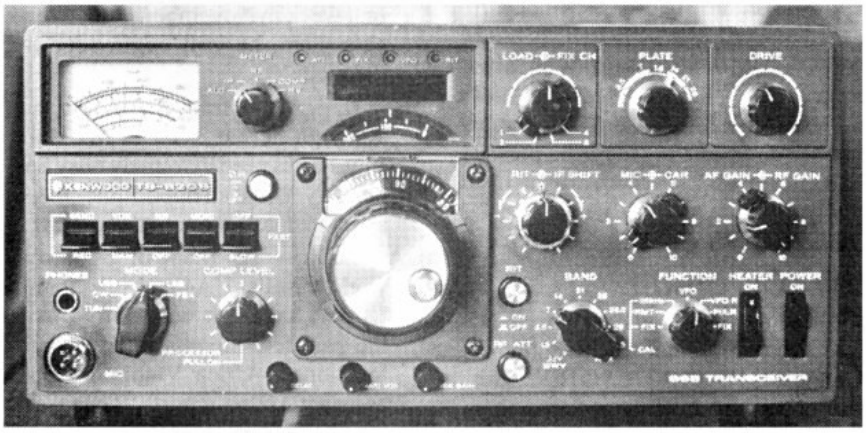

Photo 1 – The TS-820S HF transceiver.

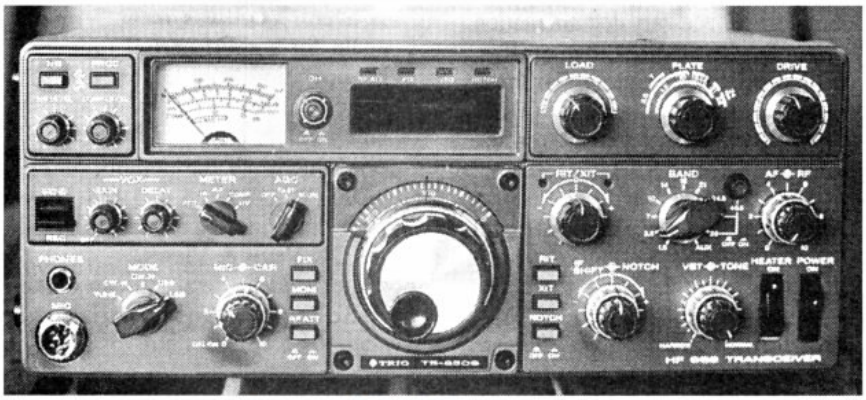

Photo 2 – The TS-830S HF transceiver.

So, what is a fair price for a TS-820S today? First, keep in mind that they are around thirty years old and things can go wrong in that time. But, assuming that it performs to your satisfaction, and that it is in clean condition with not too many scratches on the cabinet and panel, then up to $300 would be fair.

TS-830S

The TS-830-S appeared on the market around mid-1981 with an advertised price of $1,095. The TS-530S ran alongside it, was very similar in design and appearance, but sold for a slightly lower price.

The TS-830S has always been regarded as a top-notch transceiver and amateurs who own them tend to hold on to them.

Improvements over the TS-820S include the addition of the WARC bands of 10, 18 and 24 MHz; an improved RF speech processor; and a variable band-pass tuning which, when combined with the IF shift, gives excellent control of receiver selectivity. Also, the noise blanker was upgraded with a variable level control; and a transmit audio monitor is included. The digital readout is around 50% larger than the 820 but the one kHz calibrations are gone from the analog dial.

The rig was repackaged into a lower cabinet bringing the height down by 50 mm. Also, the overall weight is down by a whopping 2.5 kg that cannot all be put down to the smaller cabinet. I suspect the power transformer is a good bit smaller.

Incidentally, the almost identical looking TS-530 misses out on the band-pass tuning, the audio monitor and the RF speech processor, the latter being replaced with an audio compressor.

While the TS-830S gains a host of extra facilities over its older relation, in some ways I prefer the TS-820S. I like the sound of the received audio and, in particular, the AGC action. I am lucky enough to have one of each.

So what should you pay for a mint condition TS-830S? I would suggest around $400. Of course, there are many around not in mint condition, in which case it's up to you.

Good luck. See you at the next hamfest.

ar

DX - News & Views

VK4OQ, P.O. Box 7665, Toowoomba Mail Centre, QLD 4352.
E-Mail --- john.bazley@bigpond.com

Looking back over the year, we cannot complain at the DX activity despite the relatively poor HF conditions as we near the bottom of the current sunspot cycle. But it has been an opportunity to take advantage of the improved conditions on the Lower Frequency bands - 160, 80 and 40 metres.

The main problem facing most of us is to get up a reasonably efficient antenna for these Lower Frequencies within the space available to most amateurs.

This year two new entities, Montenegro and Swains Island were added. The former had enormous activity by an international group of amateurs, but Swains Island was a short operation, with more activity promised in 2007 (see below).

Other highlights undoubtedly were the operations from Peter 1 Island in February and the Andaman Islands in April which enabled many people to 'cross them off' their wanted list.

By the time you are reading this, we will have had both of the major CQ Contests, CW and SSB. Let us hope that conditions were good during those periods. It is an ideal opportunity for those chasing new countries to work them, particularly from dedicated DXpeditions, for the contest DXpedition operators will be looking for every QSO they can get!

December will see one of the biggest DX operations ever to take place from the 'number two' most wanted DXCC Entity - VU7 - Lakshadweep Islands.

Two groups, VU7RG (NIAR) and VU7LD (ARSI), will be active from four different islands with multiple stations being QRV.

The two teams may operate six or more at the same time on the same band and mode! Both teams are aware of the concerns from the DX community and potential DXpedition sponsors about confusion caused by overlapping operating frequencies, which will decrease the efficiency of the operation and the certainty of a reliable log entry.

Frequency management (i.e. strict frequency slots for all modes and bands to each operational site of both groups), will be important to ensure a well-regulated and trouble free operation. Members of both groups (ARSI and NIAR) will need to work out an agreement, before the activities begin.

An international team of twelve experienced operators, lead by Hrane Milosevic (YT1AD) and David Collingham (K3LP) will activate Swains Island from April 3rd to April 16th 2007, using the callsign N8S. Hrane and David have been in direct contact with Larry Gandy (AH8LG) to get a clear understanding of the island's requirements for permission to operate. Permission was confirmed by Larry Gandy on October 23rd, 2006. The N8S DXpedition team will include: YT1AD, K3LP, K1LZ, N3KS, N6TQS, RK3AD, RA3AUU, SV2BFN, UA3AB, RZ3AA, YZ7AA and YZ1BX.

The team will leave from American Samoa on Monday April 2nd, 2007, arriving and setting up camps on Tuesday April 3rd, 2007. The operation will begin late Tuesday April 3rd, 2007 and will end late Monday April 16th, 2007, providing 14 days of active operation. There will be a CW Camp, SSB Camp and Digital/6 Metre Camp each using Icom radios, ACOM amplifiers and the necessary antennas. The team will depart on Tuesday April 17th, 2007.

The QSL Manager and Web site information will be provided at a later date. At this time, there is no plan for daily on-line logging. The logs will be posted on-line after April 27th, 2007.

Operations approved for DXCC credit.

The following operations are approved for DXCC credit: Democratic Republic of the Congo, 9Q1D, 9Q1TB, 9Q1EK, with current operations beginning September 22, 2006. For those who worked Ghis 9Q1NT just before he left, the DXCC desk is waiting for the necessary documentation to allow for DXCC credit. Knowing Ghis, this will happen in due course. For those readers still needing this entity, 9Q1EK and 9Q1D are regularly on 20 metres, the latter on both CW and SSB.

XT— Members of the F6KOP Provins ARS are heading up a multi-national DXpedition team to Burkina Faso in January 2007. Team members will include N6OX, Bob; N2WB, Bob; F2JD, Gerard; F2VX, Gerard; F5LMJ, Alain; F5TVG, Frank; OE8KDK, Dieter; F9IE, Bernard; and F4AJQ, Frank. Look for activity on 6 through 160 metres on CW, SSB, RTTY, PSK, SSTV and possibly WSJT for 6 metres. They will have six rigs, two amps, and multiple antennas. Activity is expected between January 6th and January 20th next year. They do not know their callsign at this time. Plans are to have a Web page. QSL via F9IE, Bernard Chereau, P.O. Box 211, F-85330 Noirmoutier en L'ile, FRANCE.

A3 — Mark VK2GND will operate as A35GN from Tonga (OC-049) from 25 December to 3 January. Look for him on or aound 7050, 14195 and 14273 kHz. QSL via home call.

YX0A — Several people have asked about the QSL status of the April 2006 Aves Island (YX0A/YX0LIX) DXpedition. The QSL manager is Steve KU9C. YV5EED, Ramon, reports the cards are being printed by Icom America and expect to deliver them to KU9C's QTH by the first week in November. Once Steve gets them, he will begin sending them out.

5H3RK — A note from Ralph said that although he has been in 5H since July, he has been extremely busy and not, as yet, had an opportunity to get any antennas up or start operating.

UA4WHX — As most of us know, world traveller UA4WHX, Vladimir Bykov, has been very active over the past few months from various locations in Africa. Vladimir's QSL assistant Andrei reports "The QSL's for the Africa operations will be answered all together after the trip is over." Vlad was recently in V5 again for a short period following his operation from D2 but it is still not clear if he will activate another entity before returning home.

Special thanks to the authors of The Daily DX (W3UR) and 425 DX News (I1JQJ) for information appearing in this month's DX News & Views.

For interested readers you can obtain from W3UR a free two week trial from www.dailydx.com/order.htm

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VHF/UHF - an expanding world

David Smith VK3HZ – vk3hz@wia.org.au

Weak Signal

David Smith - VK3HZ

Mid-October produced some good conditions between much of VK and ZL, hosting several record-setting contacts.

On the morning of October 12, conditions were good between Tasmania and central NZ. Rex VK7MO worked Nick ZL1IU on 2 m (5/2). They set two new digital-mode records on 2 m and 70 cm (see Digital DX Modes report below).

That evening, Steve VK2ZT worked Nick ZL1IU (5/1) and Bob ZL3TY (5/1). John VK2TK worked ZL3TY (5/3).

The following morning (October 13), the opening had moved up the coast. Ross VK2DVZ and VK2ZT reported hearing several ZL1 2 m beacons. ZL1IU worked VK2ZT (5/9+20), VK2DVZ (2 m – 5/9, 70 cm – 5/3) and VK4JMC (5/3). ZL3TY worked VK2FZ (5/2). ZL1IU worked VK4JMC, VK4WS, VK4ZQ and VK4AFL in Brisbane, VK2AWD, VK2FZ (5/2), VK4LC, VK2DVZ (5/7), VK2TS (5/9) and VK2GKA (5/5). VK2DVZ worked ZL2TAL (5/1). ZL1BT worked VK2ZT (5/2), VK2DVZ, VK2IF (5/1), VK4LC (5/5), VK2FZ, VK4WS, VK2EI/p, VK4JMC, VK2APG, VK2BZE, VK2MAX, VK2MJS and VK4AFL.

On October 14, Ross VK2DVZ reports working Steve ZL1TPH/P on 2 m (5/8) and 23 cm (5/3). He also worked ZL1SWW (5/7) and ZL1BT (5/7). Steve ZL1TPH also reports working VK2ZT, VK2IF, VK2ARA, VK2EI, VK2MAX, VK2BA, VK2APG, VK2BZE, VK2FHN, VK2BHO, VK4JMC, VK4LC, VK4APG, VK4WSH and VK4TZL, all on 2 m.

Steve ZL1TPH makes these interesting observations about the VK/ZL path:

'Consistently in mid-October each y year the high shearing winds from VK to ZL support good 2 m conditions. The Hepburn Predictions seem to accurately show this. Unfortunately, these good conditions don't reach to the higher band.

From the New Year, stable weather leads to steady openings and 2 m, 70 cm and 23 cm contacts will result. Hepburn once again is normally correct. Thereafter, bits and pieces through to March and April are to be expected.

This runs in cycles every season. What I have noticed is that the Hepburn predictions at the early stages of the season are not accurate."

On the other side of the continent, Tony Mann in Perth reports the first Spring tropo opening to Indonesia. Between 0020-0050 Z and 1100-1800 Z on 10 October, some 18 UHF TV carriers on 12 channels were detectable, originating from central Java.

Peter VK5ZPG at Quorn in central SA reports that on October 15, he had some relatively good conditions. Quorn is well away from the coast, so most contacts are over purely land paths with no coastal tropo assistance. He worked Leigh VK2KRR at The Rock (893 km) on JT65B (has several times previously) - but also worked him on SSB (5/5). He also worked Brian VK5BC (5/8) and Peter VK5ZLX (5/4), both near Gawler - around 265km.

Beacons

The Albany (Mt Barker) 144.564 MHz beacon is back on air in time for the summer DX season, thanks to the hard work of Don VK6HK. Don has to make the 820 km round trip from Perth to Albany to effect any repairs.

Rod VK2SMC reports that there is a new beacon running from his QTH at Nimmitabel on 432.414 MHz, with callsign VK2TWR. The beacon is currently using 2 x 28 el Yagis, but there are two Big Wheels from WIMO Germany ready to go up when the weather improves. Thanks to Joe VK7JG, for supplying the beacon, and Rex VK7MO for the crystal heater oven. Reports are requested to Rod at rcollman@bigpond.net.au .

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.au .

Digital DX Modes

Rex Moncur – VK7MO

The high in the Tasman 10-12 October produced excellent propagation to ZL. Some operators used the extra sensitivity of JT65 when conditions were not up to SSB. From Hobart, Rex VK7MO worked Nick ZL1IU for new VK digital records on 144 MHz and 432 MHz over a distance of 2431 km. Wayne VK4WS worked Dave ZL1BT on 144 MHz using JT65.

Welcome to Wayne VK5APN and John VK2GCN, who have joined the meteor scatter group which operates weekends around 0600 to 0800 NSW local time on 144.230 MHz using FSK441. On Saturdays stations in VK3/5/7 transmit during the first period to VK1/2/4. The second listed area stations transmit in the second period. On Sundays VK1/2/3/5/7 transmit first period towards VK4. Stations in VK4 area transmit in the second period.

With the summer tropo-ducting season here, look for ducting extensions of meteor scatter using FSK441 on paths such as VK5 to ZL whenever there is a high on the eastern side of the Tasman.

Justin VK7TW and Rex VK7MO have been experimenting with JT65a for non-line-of-sight optical communication at 475 Terahertz (red light).

The equipment is designed and constructed by Mike VK7MJ, interfaced to computers running WSJT. Modulation is direct Amplitude Modulation of Light Emitting Diodes (LEDs) which has the advantage of not only simplicity, but the Difference Frequency (DF) is always zero and you can more readily find a signal in the noise and birdies. The LEDs run at 300 milliwatts output to 20 x 18 cm Fresnel lenses.

Justin was in a valley and shielded by hills from Rex. Solution: Justin beamed down the valley, his signal was weakly scattered from a large white-painted building in line-of-sight to Rex. The direct distance between stations was only 1.2 km, but the light had to travel 8 km.

Signal reports were exchanged at -25 and -28 dB, on the WSJT scale, with 90% decodes at one end and around 50% decodes at the other. One problem is that normal city lights (particularly sodium vapour lights) produce birdies at odd

harmonics of 50 Hz across the frequency range used by JT65a (1270 to 1446 Hz).

However, by using the Freeze and Tolerance facility of WSJT, it is possible to lock on to the JT65 reference tone on 1270 Hz even with a strong birdie on 1250 Hz. While the next odd harmonic at 1350 Hz is within the JT65a band, the strong Forward Error Correcting coding, built into WSJT, is able to give perfect decodes despite such interference.

A repeat attempt a few days later failed, resulting in only 30% decodes one way and nil the other, so there are still some things to learn about this type of propagation. A possible explanation is that, as it rained shortly before the repeat attempt, perhaps a wet building does not reflect as well. Another possibility is the difficulty of aiming with beamwidths of less than a degree.

These experiments open up the possibility of non-line-of-sight optical communications and have the advantage that one can experiment on these frequencies from the comfort of one's home rather than spending freezing nights on hilltops.

Please send any Digital DX Modes reports to Rex VK7MO at rmoncur@bigpond.net.au .

The Magic Band – 6 m DX

Brian Cleland – VK5UBC/BC

The 6 m band finally came to life in mid-October with openings on most days between VK4, 2 and 3 and VK5, 4 and 2 and trans Tasman openings, VK2 and 3 to ZL.

The highlight was an opening to Japan from VK2, 3, 4 and 5 on Sunday 22nd October, probably the best such opening for some years with many reports of contacts over a very wide area of the country. Here is a summary of those reports:

From Leigh VK2KRR at The Rock near Wagga Wagga: "Just this afternoon (Sunday), I was lucky enough to work 8 stations on 50 MHz from Japan. I'm only running a 1/2 wave dipole orientated east-west for best signal. Stations worked JA6JNF; JA6RJK; JE1OHL; JA5CMO; JA1RJU; JH4ADV; JR2HCB; JG3GNU. This appeared to be a TEP link into Queensland with a Sporadic E extension to southern states. I was working VK4FNQ right before it opened to JA."

"Huge opening to JA this afternoon 22/10 1400 to 1500, worked 23 JA's from Tokyo to Kobe" - regards Bruce VK2AYM, Albury.

From Phil VK2ZZY in Sydney: "Sunday 22/10/06. In and out of the shack all day. At 0125 Z worked VK4ABW - 59+20, then at 0247 Z worked VK4FNQ - 59+15 then at around 0350 Z, I started hearing JA3's calling but very weak. At 0406 Z I had a brief contact with JA5CMO. The contact was long enough to exchange calls and signal reports - 5x7 both ways then nothing! For about the next 30 minutes, I was copying video line buzz at strength 6-7 on 50.110. My location is QF56mb - this might give some idea as to the extent of the opening, as I saw on the logger that VK3SIX was also copying JA."

Norm VK3DUT near Bairnsdale reports: "From 0408 to 0434 Z, I worked JAs 1, 2, 3, 4, 5, 6, 7, 8, 9 and 0 for a total of 38 stations, 95% of signals were S9+, not sure about after that as I had to get back to the job! 49.750 was in during the opening as was the VK4RTL/b which may have indicated an Es extension as the JAs were gone when the VK4 beacon disappeared yet the 49 MHz stuff was still there. Anyway, it's been a long time."

Peter VK5ZPG at Quorn PF97aq, had an opening around 0330 UTC today Sunday 22/10. "I worked Gary VK4ABW 5/8 from Townsville - great copy. Heard VK4BKP but was unable to claim contact by exchange of signal report. Several other VK4 stations and at least 4 JAs heard weakly. Lot of band noise. Good opening, considering I've only got a 6 m vertical - and it's cut for 54 MHz!"

Scott VK4CZ in Brisbane reported that at approx. 0330 Z there were weak JAs calling CQ on 50110.0 CW, mainly RST 419. "I responded to a JA7 (from memory), but signals quickly improved so the next call on SSB was responded to by JE1CUS with 59 reports exchanged. A further dozen JAs were worked over a 20 minute period before I returned to prepare for CQWW. I heard no other VK4's from QG62 during the opening. The most interesting aspect of the opening was the impact that an Es extension provided the southern VK stations. I had a direct TEP path, and had no signs of the southern stations, but the northern VK4's were reporting the southern VKs prior to and during the opening, allowing many VK2, 3 and 5s the chance to work JA at a time when they typically would not have been provided with propagation. Although I had lost the direct path, the Es link still sustained the opening to the southern stations for a while."

Peter VK5ZLX in the Barossa Valley thought he was back in Alice Springs working 14 JAs with signals over S9. Peter even took time out to check the JA beacons and other indicators from the north and reprogram them into his radio.

Ivan VK5HS from Renmark reported that he and Larry VK5LA (Riverland area) worked several JA's between 0400 Z to 0445 Z. Signals started at 3/3 and increased up to 5/9. Stations worked included JE1CUS, JK1HCE, JA0JQS, JA1RJU, JH0HZO, JA6RJK, JF1KJC, JA1PVI, JO1ALS, and JH1KYA. Interestingly, both Frank VK4FLR & John VK4FNQ were 5/9 at the same time but they could not hear the JA stations. Ivan is running a FT847, 100 watts & 8-element Yagi at 70feet. Larry is using a FT736 and 5 element Yagi at 70 feet.

As can be seen the opening was very widespread with good strength signals.

Unfortunately, I missed the JA opening but my log indicates several contacts to northern & southern Queensland on 18th, 19th, 20th, 22nd, 24th, and 25th October. I also worked Phil VK2ZZY on the 1st November and John VK4FNQ on the 6th November.

Meanwhile good openings on 22nd October and 3rd November were reported by John VK4FNQ in Charters Towers and Gary VK4ABW north of Townsville. John reports working the following:

22nd October - VK3XQ, VK2BJ, VK3IDL, VK3FI, VK2BHO, VK2ZZY, VK5BC, VK5YX, VK2KRR, VK5HS, VK5LY;

3rd Nov - VK3DUT, VK5AKM, VK2FAD, VK2BZE, VK3JWZ, VK1AI, VK3KAY, VK3WN, VK2ARA, VK2BHO, VK2APG, VK2ZOM &

6th Nov - VK5BC.

There have been several reports of hearing the FK8 and VK8RAS (Alice Springs) beacons in VK2, 3, 4 & 5 during late October/early November but no reports of contacts to these areas.

Only report from the west was from Graham VK6RO, who reported that the Dampier VK6RSX beacon was S9 into Perth on the 24 October.

From New Zealand Rod ZL3NW and

IARU News

David Sumner, K1ZZ
Secretary, IARU

All eyes on Antalya

A big event in telecommunications was the Plenipotentiary Conference of the International Telecommunication Union (ITU), in Antalya, Turkey from November 6 to 24th.

The "Plenipot" is the ITU's ultimate authority. Every four years, the Member States meet to consider changes to the organization's Constitution and Convention, adopt strategic and financial plans, and elect the senior management . Approximately 2,000 delegates attend.

Incumbent Secretary-General Yoshio Utsumi cannot run again so a new Secretary-General will be elected from six candidates. Two of these are current Deputy Secretary-General, Roberto Blois of Brazil, and the Director of the Telecommunication Development Bureau, Hamadoun Touré of Mali. Both are also term-limited and so must move "up or out." Other candidates are Marc Furrer of Switzerland, Matthias Kurth of Germany, Montasser Ouaili of Tunisia, and Muna Nijem of Jordan.

The Director of the Radiocommunication Bureau, Valery Timofeev of the Russian Federation, is eligible for re-election and is unopposed. There are four candidates for each of the other three senior posts: Deputy Secretary-General, Director of the Telecommunication Standardization Bureau, and Director of the Telecommunication Development Bureau.

A candidate for one of the 12 seats on the part-time Radio Regulations Board is Robert W. Jones, VE7RWJ. Bob served two terms as Director of the Radiocommunication Bureau and served as a consultant to the IARU at the 2003 World Radiocommunication Conference.

Also 46 Member States will be elected to the ITU Council, which meets annually to supervise the management of the ITU between Plenipots.

The delegates in Antalya, and those they elect, face great challenges.

Member States have been unwilling to increase their financial contributions. Normal increases in expenses and the costs of interpretation and translation of documents into the ITU's six official languages reduced of the ITU to keep up with the rapid pace of developments.

This has led to staff reductions and depressed morale. The outgoing Secretary-General has complained of 'responsibility without authority' as the Bureau Directors are elected by the Member States, not appointed by the Secretary-General.

The delegates will consider a name chnage for ITU! A Common Proposal submitted by several Arab States propose "International Telecommunication and Information Technology Union", reflecting a growing belief that "telecommunication" no longer covers ITU's responsibilities.

Observers at the Plenipot will be IARU Vice President Tim Ellam VE6SH and International Coordinator for Emergency Communications Hans Zimmermann HB9AQS/F5VKP.

ITU-R study group 1 working parties meet in Munich

Volunteer IARU Technical Representative Ken Pulfer VE3PU represented the IARU at meetings of the ITU Radiocommunication Sector's Working Parties (WP) 1A and 1B in Munich, Germany October 9-13. WP 1A dealt with two topics of great interest to the Amateur Service: Interference from Power Line Telecommunication Systems (variously known as BPL, PLC or PLT) and a study of possible allocations above 275 GHz. WP 1B considered Software Defined Radio and Cognitive Radio.

Ken reports about BPL: "The updated Working Document towards a Preliminary Draft New Recommendation is a definite improvement over last year, but requires more work. It provides guidance to administrations dealing with domestic BPL installations that may cause interference to radiocommunications services. The current version includes examples of interference measurements provided by Brazil, the North American Broadcasters Association, and CBS."

Work on the Draft Report will continue in a Correspondence Group, to produce an updated version for WP 1A next June. The IARU will be involved in the Group to protect the Amateur Service.

IARU represented at Annual CISPR Meeting

The IARU was represented by IARU EMC Adviser Christian M. Verholt OZ8CY at the annual meeting of CISPR: The International Special Committee on Radio Interference, in Stockholm, Sweden September 11-20. CISPR develops (EMC) standards. As one might expect, voices representing industry are heard more frequently than are voices representing radio spectrum users. IARU participation is important to ensure CISPR standards are adequate to protect the Amateur and Amateur-Satellite Services.

IARU concerns at CISPR include:

- Interference from broadband emitters, including but not limited to BPL/PLC/PLT
- Interference from electronic lighting equipment
- Immunity standards for multimedia and information technology equipment (ITE)
- Interference from larger LCD and Plasma video screens

Christian notes a lack of appreciation for the unique nature of the radio spectrum below 30 MHz among CISPR participants. Radio amateurs - indeed, all who rely on the wonderful phenomenon of ionospheric propagation for long-distance communication - face a never-ending challenge to educate others regarding the need to protect this irreplaceable natural resource.

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The Magic Band – 6 m DX continued

Bob ZL3NE report working into VK2, 3 & 4 on the 25th October.

I received a note from Richard VK4YRP to advise that the Sunshine Coast ARC has relocated its 6 m repeater VK4RSN from their clubrooms to Dulong approx. 350 m above sea level. The repeater output is 53.7 MHz and the input is 52.7 MHz. The club holds a net on the repeater every Friday at 7.30pm AEST.

The summer DX season has got off to a good early start and hopefully this develops into a big sporadic E season in December & January.

Please remember to send any 6 m information to Brian VK5UBC/BC at bcleland@picknowl.com.au .

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FOR SALE NSW

•Radio valves, all new and boxed.Send SASE for lists. Malcolm Sinclair VK2BMS QTHR Ph 02 9958 1114.

•ICOM IC-751A HF transceiver $1250.KENWOOD PS30 13.8V 20A DC power supply o/v protect $200. YAESU FT-227R transceiver $125. ICOM AH2 all band ATU $400. SPITIT VIPER 33,600 bps tel/fax modem $115. All with manuals, all VGC, all ONO. Art Stowar VK2AS 02 9972 3540.

•ICOM IC-718 HF transceiver, new with ICOM PS215 power supply both in mint condition in original boxes with manuals.Serial no 0205295 and serial no 0205561, fitted with DSP $1300. TenTecArgonaught VHF transceiver, new, in mint condition, model 516, serial no 06C10103 with manuals $1250. MOTOROLA 8 amp power supply, suits TEN-TEC transceiver, model no APN6003A $40. DICK SMITH function generator, model FG-30 in new condition. Serial no 20033100 with manuals $150. Gordon VK2CSS 02 4821 0756 QTHR.

•TEN-TEC 20/6 metres converter, brand new and in mint conditions, 10 watts output $200.00. YAESU FT-290R MkII with matching YAESU FT-2025 linear amplifier (25 watts), it comes with rubber flexible antenna, NiCads and mobile cradle $390.00. YAESU FT-1500 2 m. Mobile FM, 50 watts output, in mint conditions, with mike, mobile mounting bracket, etc. Original package, $300.00. RAMSEY CT-70 frequency counter, goes up to 600 MHz, with rechargeable batteries and manual, in perfect condition $85.00. KENWOOD SW-100 SWR/ Power meter, 140-450 MHz. power range 0-150 watts, in perfect condition $95.00. Mirel, VK2BOD. Email adslqls8@tpg.com.au. Phone 02 4333 1823.

WANTED NSW

•TRIO Model JR500S communications receiver data.Any information would be appreciated. Malcolm Sinclair VK2BMS QTHR Ph 02 9958 1114

•Workshop manual for BARLOW WADLEY XCR-30 receiver.Happy to copy and return immediately. VK2BTT QTHR 02 9608 1935

FOR SALE VIC

•20 MHz CRO HUNG CHANG VGC $250 ono. VK3BK QTHR Phone 03 9879 1896. Also FREE Trafo Chassis two cover for 160 m 400 watt linear.

•ALINCO DX-70TH HF 100 W & 6 m 100 W all mode transceiver.Excellent condition in original box with book, $750.00 Ian VK3XI ph 03 9580 6627.

•Communication receiver R-390A similar to last one advertised. Fully operational and rejuvenated. Photos on request $900. COLLINS auto antenna tuner 180-L3 with plug as used with COLLINS HF xcvr 618 T or ARC-38 $150. Avionic receiver R-1021/ARN-30D with control box and plugs. Covers 108 – 127 MHz $150. LF receiver R-11A similar to the Q5er Command Rx covers 190 – 550 kHz $ 60. No dynamotor which is same as for Command Rx. TEST STUFF: Navy CRO (new) used for radar checking as well as CRO to 15 MHz operates from 115 V Model OS-4B/AP. Price $50. HP programmable/manual power supply Model 6624A four outputs at 40 watts; 2 at 0 – 7 or 0 – 20 volts and 2 at 0 – 20 or 0 – 50 volts. It uses the HP programming command set. Price $150. VINTAGE: Historic AWA Tx/Rx type Z 55670 VHF (converted to 2 metres) used by Vic. Police at D24 back in the 60s A wall mounted unit and used by WICEN operator at that time. Price $60. ODDS & SODS: Xtals 200 kHz - Calibrator HC-6/U case type CR-47/U Eight available price $10 each posted. Control box C/605 for the ARC-33 uhf xcvr. Dial mechanism for BC-348 receiver. $15. All items plus freight or personal collection. Pete Williams VK3IZ QTH R 03 5156 2053. email jupete@bigpond.net.au

WANTED VIC

•I am trying to restore/complete my AN/TRC24 Radio system and I am looking for the following parts/units: Transmitter, T-302/TRC. Power Supply, PP-685/TRC. Receiver, R-417/TRC. A Band Plug-in AM-1180/GRC. Amplifier/ converter, AM-2537/TRA-25. Amplifier/ Converter, AM-3204/TRC-24. Oscillator/ Multiplier, 0-903A/TRC-24. Transformer, TF-167/TRC. and any other bits and pieces for this radio. Thanks for reading this. Regards, John Eggington VK3EGG johne@telpacific.com.au Mobile: 0409 234 672

WANTED QLD

•Information re ICOM IC-PW1 linears.Please phone Alex VK4TE on 07 5547 7817 after 6pm

FOR SALE SA

•VK5JST Antenna Analyser kits (see AR article May 2006). Build yourself an extremely useful item for your shack, and improve your HF antenna efficiency. For more details see www.scarc.org.au; contact SCARC PO Box 333 Morphett Vale SA 5162, or email: kits@scarc.org.au, submitted by Graham Thomas VK5HGT 5 Beechwood Grove Seaford SA 5169 tel: 08 8386 3344

WANTED WA

•YAESU FT-680R 6 m all mode transceiver in good working condition.Please contact VK6ZTJ Trevor at QTHR or email to tam.elec@optusnet.com.au

THE WIA QSL COLLECTION REQUIRES QSLS

All types welcome, especially rare DX pictorial cards, special issue. Please contact the Hon Curator, Ken Matchett VK3TL, 4 Sunrise Hill Road, Montrose Vic 3765, tel. (03) 9728 5350

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Directory

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The WIA offers one year and 5 year membership for all categories except Concession Student. The fees for each category are:
Full members $75 ($365), Overseas members $85 ($403), Concession members (pensioner) $70 ($332),
Concession members (student) $70, Full members no magazine $50 ($237), Family members $40 ($190)

National Office	Contact	News Bulletin Schedule
10/229 Balaclava Road, Caulfield North VIC 3161, PO Box 2175 Caulfield Junction Vic 3161 Australia	Phone 03 9528 5962, Fax 03 9523 8191, 10am to 4pm daily, nationaloffice@wia.org.au http://www.wia.org.au	Subject to change. See www.wia.org.au follow National News prompts. Contact nationalnews@wia.org.au National VK1WIA news is distributed to all states.

Advisory Committees	Contact	News Bulletin Schedule
VK1 Australian Capital Territory VK1WX Alan Hawes VK1ZPL Phil Longworth VK1ET John Woolner VK1GH Gil Hughes	vk1advisory@wia.org.au	Sundays at 11.00 am VK1WIA 7.128, 146.950,438.050 Canberra Region Amateur Radio Club Email newsletter will be sent on request to president@vk1.ampr.org
VK2 New South Wales VK2QV Chris Flak VK2XCD Chris Devery VK2BFN Adrian Clout	Phone 02 9689 2417 vk2wi@ozemail.com.au vk2advisory@wia.org.au	VK2WI - Sunday 1000 and 1930 hours local.1.845; 3.595; 7.146; 10.125; 14.170; 28.320, 52.525; 145.600; 147.000; 438.525; 1273.500 megahertz. Plus regional relays. VK1WIA news included in the morning
VK3 Victoria VK3JJB John Brown VK3PC Jim Linton VK3APO Peter Mill	Phone 03 9885 9261 arv@amateurradio.com.au	VK1WIA, Sunday 11am and 8pm, 3.615 and 7.085 (LSB), 10.130 (USB), VK3RML 146.700, VK3RMM 147.250, VK3RMU 438.075.
VK4 Queensland VK4BY Don Wilchefski VK4ZZ Gavin Reibelt VK4KF Ken Fuller	vk4advisory@wia.org.au	VK1WIA, Sunday 9.0am via HF and major VHF/UHF rptrs
VK5 South Australia and Northern Territory VK5OV David Box VK5APR Peter Reichelt VK5ATQ Trevor Quick	Phone 08 8294 2992 boxesdnm@lm.net.au peter.reichelt@bigpond.com vk5advisory@wia.org.au	**VK5 South Australia** VK5WI: 0900 am local time. 1.843 LSB, 3.550 LSB, 7.140 LSB, 28.470 USB, 53.1 AM, 147.000 FM Adelaide, 146.900 FM South East, 146.925 FM Central North, 439.975 FM Adelaide North. **VK8 Northern Territory** 0900 local time 3.555 LSB, 7.050 LSB, 10.130 USB, 146.900 FM.
VK6 Western Australia VK6NE Neil Penfold VK6XV Roy Watkins VK6OO Bruce Hedland-Thomas	Phone 08 9351 8873 http://www.vk6.net/ vk6advisory@wia.org.au vk6ne@upnaway.com vk6xv@bigpond.net.au	VK6WIA: 146.700 FM(R) Perth at 0930hrs Sunday relayed on 1.865, 3.564, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120 FM, 50.150 and 438.525 MHz, Country relays 3.582, 147.200 (R) Cataby, 147.350 (R) Busselton, 146.900 (R) Mt William (Bunbury).147.000 (R) Katanning and 147.250 (R) Mt Saddleback. Broadcast repeated on 146.700 at 1900 hrs Sunday relayed on 1.865, 3.564 and 438.525 MHz : country relays on 146.900,147.000, 147.200, 147.250 and 147.350 MHz..Also in "Realaudio" format from the VK6 WIA website
VK7 Tasmania VK7ZAX Phil Corby VK7DG Dale Barnes VK7KK Reg Emmett	Phone 03 6234 3553 vk7advisory@wia.org.au phil.corby@tassie.net.au vk7dg@wia.org.au regemm@ozemail.com.au	VK1WIA Sunday 9am on VK7WI network: 3.570MHz LSB, 146.700 MHz FM (VK7RHT South), 53.825MHZ FM (VK7RAD South), 147.000MHz FM (VK7RAA North), 146.750 FM & 53.825MHz (VK7RNW North West), 146.625 MHz FM (VK7RMD North West), UHF CB Channel 15 (Hobart) and 27MHz CB - 27.225MHz LSB (Hobart). Followed at 9:30am with VK7 Regional News Broadcast also on 7.090MHz LSB & 14.130MHz USB

Notes

1. Only three members of the state advisory committees are listed.
2. All listings are preliminary. They will be updated each month as required.
3. Membership application forms are available from the WIA web site www.wia.org.au or the national office address above.

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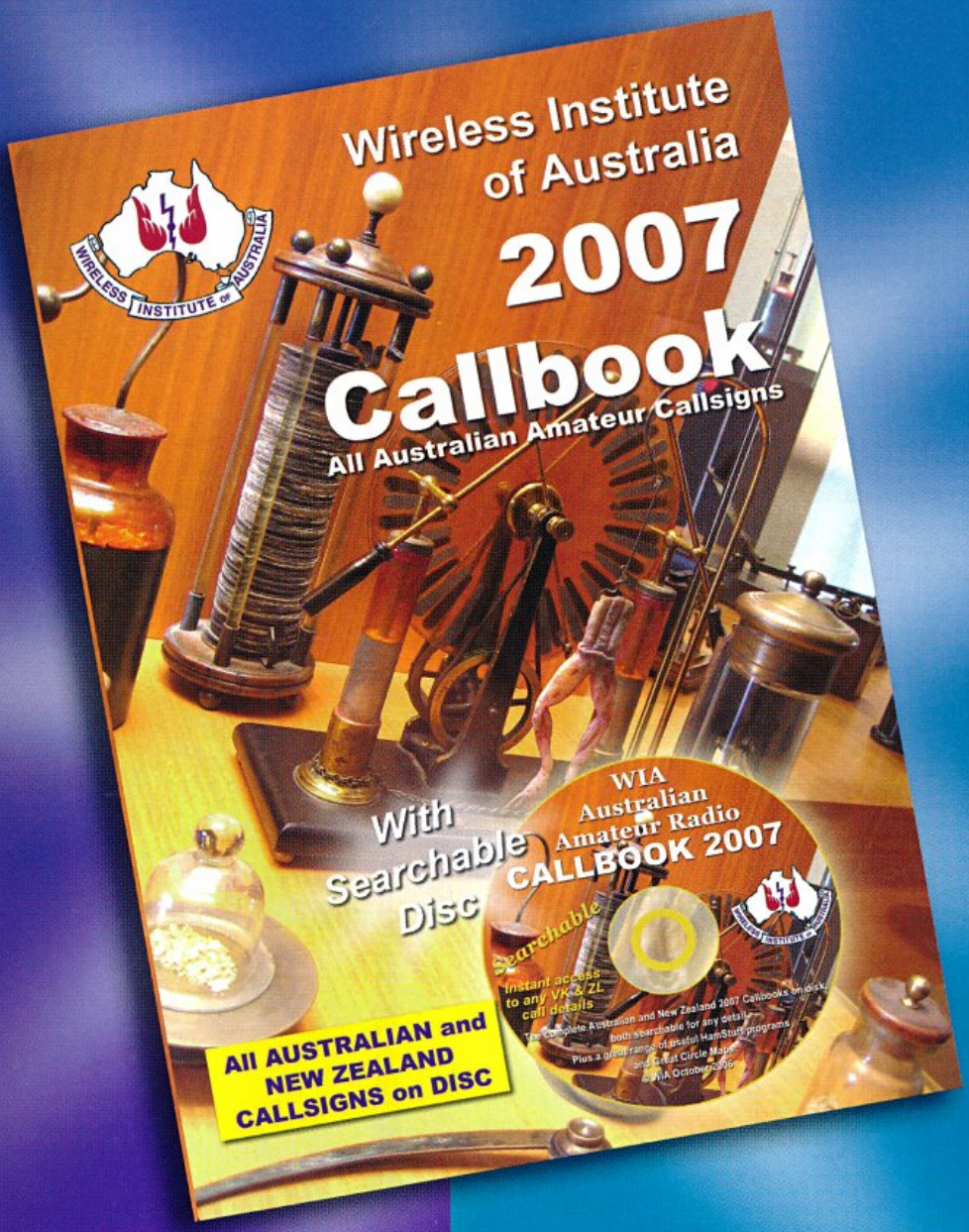

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